

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
FORT WORTH DIVISION**

**CARROLL INDEPENDENT SCHOOL
DISTRICT,**

Plaintiff,

v.

**UNITED STATES DEPARTMENT OF
EDUCATION; ET AL.,**

Defendants.

Case No. 4:24-cv-00461-O

**APPENDIX IN SUPPORT OF PLAINTIFF CARROLL INDEPENDENT
SCHOOL DISTRICT'S COMBINED OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT AND REPLY IN SUPPORT OF
PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT**

Declaration of Mathew W. Hoffmann, dated September 16, 2024	MSJ App. 475–477
Public Comment Submitted to U.S. Department of Education, Docket ID ED-2021-OCR-0166-195294 (Sept. 11, 2022) Gender Exploratory Therapy Association (GETA) Comment Opposing “Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance”)	MSJ App. 478–739
Public Comment Submitted to U.S. Department of Education, Docket ID ED-2021-OCR-0166-66335 (Aug. 31, 2022) Kimberly Babb Comment Opposing “Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance”)	MSJ App. 740–848
Hilary Cass (April 2024) <i>The Cass Review: Independent review of gender identity services for children and young people</i>	MSJ App. 849–1236
J.S. Morandini, et al. (April 4, 2023) <i>Is Social Gender Transition Associated with Mental Health Status in Children and Adolescents with Gender Dysphoria?</i> , 52(3) Archives Sexual Behavior 1045–60	MSJ App. 1237–1252
R. Hall, et al. (April 9, 2024) <i>Impact of social transition in relation to gender for children and adolescents: a systematic review</i> , 109 Archives Disease Childhood, doi:10.1136/archdischild-2023-326112	MSJ App. 1253–1276

Expert Report of Stephen B. Levine, M.D., <i>Darren Patterson Christian Academy v. Roy</i> , No. 1:23cv1557 (D. Colo. May 30, 2024)	MSJ App. 1277–1415
---	-----------------------

CERTIFICATE OF SERVICE

I certify that on September 16, 2024, this document was served on all counsel of record via the Court's CM/ECF system.

/s/ Mathew W. Hoffmann

Mathew W. Hoffmann

Counsel for Plaintiff Carroll ISD

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
FORT WORTH DIVISION**

**CARROLL INDEPENDENT SCHOOL
DISTRICT,**

Plaintiff,

v.

**UNITED STATES DEPARTMENT OF
EDUCATION; ET AL.,**

Defendants.

Case No. 4:24-cv-00461-O

DECLARATION OF MATHEW W. HOFFMANN

I, Mathew W. Hoffmann, declare as follows:

1. I am above the age of 21, and competent to make this declaration.
2. I am Legal Counsel at Alliance Defending Freedom (ADF) and counsel of record for Plaintiff Carroll Independent School District. These facts are within my personal knowledge and are true and correct. If called to testify, I could and would testify competently to these facts.
3. On September 16, 2024, I accessed the first attached document from Regulations.gov, <https://www.regulations.gov/comment/ED-2021-OCR-0166-195294>. It is a true, accurate, and complete copy of a comment and all attachments submitted by the Gender Exploratory Therapy Association (GETA) on September 11, 2022, on the Notice of Proposed Rulemaking on Title IX of the Education Amendments of 1972, Docket ID ED-2021-OCR-0166-0001, <https://www.regulations.gov/document/ED-2021-OCR-0166-0001>.
4. On September 16, 2024, I accessed the second attached document from Regulations.gov, <https://www.regulations.gov/comment/ED-2021-OCR-0166->

66335. It is a true, accurate, and complete copy of a comment and attachment submitted by Kimberly Babb on August 31, 2022, on the Notice of Proposed Rulemaking on Title IX of the Education Amendments of 1972, Docket ID ED-2021-OCR-0166-0001, <https://www.regulations.gov/document/ED-2021-OCR-0166-0001>.

5. The next attached document is a true, accurate, and complete copy of *The Cass Review: Independent review of gender identity services for children and young people* (April 2024) by Dr. Hilary Cass. *The Cass Review* is the final report submitted by Dr. Cass in her role as Chair of the Independent Review of Gender Identity Services for Children and Young People commissioned by the National Health Service of England. The report is available at <https://cass.independent-review-uk/home/publications/final-report/>.

6. The next attached document is a true, accurate, and complete copy of J.S. Morandini, et al., *Is Social Gender Transition Associated with Mental Health Status in Children and Adolescents with Gender Dysphoria?*, 52(3) Archives Sexual Behavior 1045–60 (April 4, 2023).

7. The next attached document is a true, accurate, and complete copy of R. Hall, et al., *Impact of social transition in relation to gender for children and adolescents: a systematic review*, 109 Archives Disease Childhood (April 9, 2024).

8. The next attached document is a true, accurate, and complete copy of the Expert Report of Stephen B. Levine, M.D. that was filed in the United States District Court for the District of Colorado in *Darren Patterson Christian Academy v. Roy, et al.*, No. 1:23-cv-1557 (D. Colo. June 21, 2024).

Under 28 U.S.C. section 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 16th day of September, 2024, at Lansdowne, Virginia.

/s/ Mathew W. Hoffmann

Mathew W. Hoffmann

Counsel for Plaintiff

Carroll Independent School District

September 11, 2022

Department of Education
Office for Civil Rights
400 Maryland Ave SW
Washington, DC 20202

Re: *Nondiscrimination on the Basis of Sex in Education Programs or
Activities Receiving Federal Financial Assistance;*
RIN: 1870-AA16; Docket ID No. ED-2021-OCR-0166

To the Office for Civil Rights:

We submit this comment on behalf of GETA, the Gender Exploratory Therapy Association (<https://genderexploratory.com>) to express our concerns about the United States Department of Education's proposed amendments to the regulations implementing Title IX of the Education Amendments of 1972 (the "proposed amendments"). In particular, we are concerned about the proposed amendments' treatment of the concept of "gender identity" in the regulation, and the implementation of that concept in the K-12 setting.

GETA members are practitioners and trainees in the psychotherapy professions who believe that people who are exploring their gender identity or struggling with their biological sex should have access to therapists who will provide thoughtful care without pushing an ideological or political agenda. Skilled, ethical exploratory therapy is appropriate for those with gender dysphoria, their families, and detransitioners. We reject treatments that set out to change sexual orientation or gender identity; practices that use coercive techniques have no place in health care. As GETA members, we respect client autonomy and do not impose our own beliefs, values, opinions, ideology, religion, or goals onto our clients. Although we applaud and support the DOE's efforts to ensure that gender-nonconforming students are treated with respect and dignity in schools, the proposed amendments require schools to engage in powerful psychotherapeutic interventions with gender-nonconforming children for which school personnel are not trained. As therapists, we believe that psychological approaches should be the first-line treatment for all cases of gender dysphoria, and that immediate social transition by school personnel is contrary to an effective therapeutic approach intended to explore the various possible causes of a young person's psychological distress. A holistic therapeutic approach avoids the risks of woefully premature social and medical transition and supports children's autonomy by facilitating deeper self-understanding. If implemented, the proposed amendments will curtail such an approach and, as a consequence, will harm children.

We describe five principal concerns in this comment:

- (1) The proposed amendments' failure to define the concept "gender identity."
- (2) The proposed amendments' creation of a system that allows the child to "self-identify" as the opposite sex, and mandates that the school "socially transition" the child without any input from mental health professionals or the child's parents. Mandatory social transition by schools is a powerful psychotherapeutic intervention by teachers and school administrators who are not trained in this area.
- (3) The tendency of social affirmation within school settings to support the "affirmative care" model of psychotherapy and thereby lead to experimental medical interventions that have potentially harmful and lifelong side effects.
- (4) The harmful impact on many families caused by the proposed amendments.
- (5) The harm caused by this system to the mental health of other students, especially female students.

1. The Proposed Amendments Fail to Define "Gender Identity"

The principal shortcoming of the DOE's proposed amendments is that they fail to define "gender identity." There are many definitions of "gender identity" currently available in legal sources, psychological literature, cultural criticism, and popular culture. The proposed amendments simultaneously fail to define "gender identity" and at the same time create serious penalties for school officials, teachers, and other students who fail to treat a student according to that identity, thus leaving the proposed amendments hopelessly ambiguous and ripe for misuse. In this section we describe four common meanings of the term "gender identity." This list is not exhaustive, but it demonstrates that leaving that term undefined in the proposed amendments will give rise to substantial confusion and disagreement over the regulations' scope and purpose.

First, "gender identity" – and especially "gender identity" that is not aligned with one's biological sex – is often associated with the psychological condition of "gender dysphoria." "Gender dysphoria" is defined in the *Diagnostic and Statistical Manual of Mental Disorders* ("DSM-5") as a "marked incongruence between one's experienced/expressed gender and [one's biological sex], lasting at least 6 months."¹ Although the proposed amendments do not use the term "gender dysphoria," we infer that the inclusion of the term "gender identity" in the proposed amendments is intended to protect those children whose perceived "gender identity" is different from their biological sex, and hence would include children with gender dysphoria.

If this is the intended meaning of "gender identity," then the proposed amendments are setting out policies concerning how school officials, teachers, and other students should respond to a child who has a very serious mental health disorder. We identify the potentially harmful

¹ American Psychiatric Association, "Gender Dysphoria," *Diagnostic and Statistical Manual of Mental Disorders*, at 452 (5th ed., 2013).

consequences of this approach to gender dysphoria in the next section. At the very least, however, the proposed amendments should clarify whether, in fact, “gender identity” is synonymous with or includes the psychological condition “gender dysphoria.”

A second possibility is that the proposed amendments use the term “gender identity” to mean “gender expression.” This understanding of gender identity as expression is found in some state laws. For example, a Massachusetts statute defines “gender identity” as “a person’s gender-related identity, *appearance or behavior*, whether or not that gender-related identity, *appearance or behavior* is different from that traditionally associated with the person’s physiology or assigned sex at birth.”² Other state laws use similar language.³ This understanding of gender identity emphasizes the child’s outward presentation of gender nonconformity – that is, where a student dresses and behaves in ways that do not traditionally align with his or her biological sex. People who are gender nonconforming in this way do not necessarily experience any discomfort with their biological sex, and hence are not necessarily gender dysphoric. They simply may be happier dressing and behaving in ways that are traditionally associated with the opposite sex.

As mental health professionals, we are absolutely supportive of gender-nonconforming expression by individuals of all ages. We do not endorse a therapeutic model that pushes or encourages children or adults to express themselves in a manner that is consistent (or inconsistent) with norms and behaviors traditionally associated with their biological sex. Nor, however, do we endorse an approach that labels all gender-nonconforming expression as a “gender identity” that requires a child’s therapists, teachers, and peers to ignore the realities of biological sex. We do not think it is appropriate or accurate to instruct children that, if a biological boy prefers to wear dresses and play with dolls, that means he *is* a girl, nor do we believe young children should be taught that gender-nonconforming behavior supports belief in an ever-proliferating number of gender identities existing along a spectrum. (Although proponents of the proposed amendments may respond that the amendments would not require this, we are aware of many lessons about gender geared to younger children that take precisely that approach.)⁴ Finally, because not all gender-nonconforming *expression* is an indication of gender dysphoria or a transgender identity, as a therapeutic matter the three things should not be conflated.

A third possibility – and we think the most likely possibility – is that the proposed amendments to the Title IX regulations principally uses the term “gender identity” to mean “an individual’s

² Mass. Gen. Laws ch. 4, § 7, fifty-ninth (2011) (emphasis added).

³ See also N.M. Stat. Ann. § 28-1-2 (Q) (“‘gender identity’ means a person’s self-perception, or *perception of that person by another*, of the person’s identity as a male or female based upon the person’s appearance, behavior or physical characteristics that are in accord with or opposed to the person’s physical anatomy, chromosomal sex or sex at birth.”) (emphasis added); Conn. Gen. Stat. § 46a-51(21) (“‘Gender identity or expression’ means a person’s gender-related identity, *appearance or behavior*, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person’s assigned sex at birth.”) (emphasis added).

⁴ See, e.g., *Pink, Blue and Purple*, a lesson plan for Grade One developed by Advocates for Youth and used by primary school teachers throughout the United States, https://www.advocatesforyouth.org/wp-content/uploads/2021/08/3Rs_Grade1_PinkBluePurple_2021.pdf.

internal sense of gender.” This is how the U.S. Departments of Justice and Education’s 2016 *Dear Colleague Letter on Transgender Students* defines the concept: “Gender identity refers to an individual’s internal sense of gender.”⁵ Although the 2016 *Dear Colleague Letter* was rescinded in 2017, this definition of the term “gender identity” is found in many state law and policy documents.⁶ It is also typical in documents produced by the U.S. government concerning “gender affirming” medical treatment.⁷

Because this definition of “gender identity” turns exclusively on a child’s self-perception, it is wholly subjective. That is, the child is the only individual who can determine his or her gender identity. Several state guidelines make this point: “the person best situated to determine a student’s gender identity is that student himself or herself.”⁸ The 2016 *Dear Colleague Letter*

⁵ U.S. Dep’t of Justice & Dep’t of Educ., *Dear Colleague Letter on Transgender Students*, at 1 (May 13, 2016); *id* at 8 (“Under Title IX, there is no medical diagnosis or treatment requirement that students must meet as a prerequisite to being treated consistent with their gender identity.”) (hereinafter *2016 Dear Colleague Letter*).

⁶ See, e.g., Cal. Code Regs. Tit. 2, § 11030 (b) (2022) (“‘Gender identity’ means each person’s *internal understanding of their gender*, or the perception of a person’s gender identity, which may include male, female, a combination of male and female, neither male nor female, a gender different from the person’s sex assigned at birth, or transgender.”) (emphasis added); Colo. Rev. Stat. § 24-34-301(3.5) (2021) (“‘Gender identity’ means an individual’s *innate sense* of the individual’s own gender, which may or may not correspond with the individual’s sex assigned at birth.”) (emphasis added); Haw. Rev. Stat. § 432:1-607.3(h) (2022) (“‘Actual gender identity’ means a person’s *internal sense* of being male, female, a gender different from the gender assigned at birth, a transgender person, or neither male nor female.”) (emphasis added); Mass. Dep’t of Elem. & Secondary Ed., *Guidance for Massachusetts Public Schools Creating a Safe and Supportive Environment* (2022), <https://www.doe.mass.edu/sfs/lgbtq/genderidentity.html> (last visited Sept 7, 2022) (hereinafter *Guidance for Massachusetts Public Schools*) (“One’s gender identity is an *innate, largely inflexible characteristic* of each individual’s personality that is generally established by age four”) (emphasis added); N.Y. State Educ. Dep’t, *Guidance to School Districts for Creating a Safe and Supportive School Environment For Transgender and Gender Nonconforming Students*, at 5 (2015), https://www.p12.nysed.gov/dignityact/documents/Transg_GNCGuidanceFINAL.pdf (last visited Sept 7, 2022) (hereinafter *N.Y. Guidance to School Districts*) (“One’s gender identity is an *innate, largely inflexible characteristic* of each individual’s personality that is generally established by age four”) (emphasis added); Chicago Public Schools, *Guidelines Regarding the Support of Transgender and Gender Nonconforming Students*, at 1 (2019), https://www.cps.edu/globalassets/cps-pages/services-and-supports/health-andwellness/healthy-cps/healthy-environment/lgbtq-supportiveenvironments/guidelines_regarding_supportoftransgenderand-gender_nonconforming_students_july_2019.pdf (last visited Sept. 7, 2022) (hereinafter *Chicago Guidelines*) (defining “gender identity” as the “*deeply held sense* that individuals have of their gender, regardless of the sex they were assigned at birth”) (emphasis added).

⁷ See, e.g., U.S. Dep’t of Health and Human Services, *Gender-Affirming Care and Young People* (March 2022), <https://opa.hhs.gov/sites/default/files/2022-03/gender-affirming-care-young-people-march-2022.pdf> (defining “gender identity” as “[o]ne’s internal sense of self as man, woman, both or neither”).

⁸ *Guidance for Massachusetts Public Schools*, *supra*. See also Conn. Dep’t of Educ., *Guidance on Civil Rights Protections and Supports for Transgender Students Frequently Asked Questions*, at 5 (2017), https://portal.ct.gov/-/media/SDE/Title-IX/transgender_guidance_faq.pdf (hereinafter *Conn. Civil Rights*

also maintains that “Under Title IX, there is no medical diagnosis or treatment requirement that students must meet as a prerequisite to being treated consistent with their gender identity.”⁹ Although some state laws add the caveat that school officials need not recognize a students’ self-proclaimed “gender identity” if it appears that the student is asserting a sex-incongruent gender identity for an “improper purpose,”¹⁰ the 2016 *Dear Colleague Letter* provides no similar limitation. The proposed amendments to the regulations implementing Title IX also provide no limitation.

Fourth, if one moves beyond definitions of “gender identity” provided in legal and policy documents, the term becomes even more difficult to define. In addition to the now well-known concept of a “nonbinary” gender identity, other gender identities have proliferated in popular culture, including agender, bigender, demigender, pangender, omnigender, polygender, and gender-fluid. As the term “gender-fluid” suggests, these “identities” are not necessarily fixed. As explained by one popular magazine, “[g]ender-fluid typically refers to someone who prefers to express either or both maleness or femaleness, and that can vary, perhaps from day to day.”¹¹ Given the incredible proliferation of “gender identities” in popular culture today, the proposed amendment’s failure to define “gender identity” places K-12 schools in the impossible position of formally recognizing, and making significant policy accommodations for, self-proclaimed identities that are neither stable nor, in some cases, comprehensible by others.

In short, the proposed amendments fail to define the key concept of “gender identity.” At a minimum, this failure leaves teachers and other school personnel in the unenviable position of trying to implement a punitive regulation that provides civil rights protections and remedies for a characteristic that has multiple, fluctuating definitions in law and society.

2. Mandatory Social Transition by Schools is a Powerful Psychotherapeutic Intervention by Untrained Teachers and School Administrators

Protections) (“schools are expected to treat students consistent with the student’s stated gender identity”); *N.Y. Guidance to Schools, supra*, at 5 (“It is recommended that schools accept a student’s assertion of his/her/their own gender identity.”); *Chicago Guidelines, supra*, at 4 (“At all times, the Support Coordinator and the Student Administrative Support Team shall respect the self-determination of the student.”).

⁹ 2016 *Dear Colleague Letter, supra*, at 2.

¹⁰ See, e.g., *Conn. Civil Rights Protections, supra*, at 4; *Guidance for Massachusetts Public Schools, supra*.

¹¹ Perri O. Blumberg and Emily Becker, *Here's Your Comprehensive Gender Identity List, as Defined by Psychologists and Sex Experts*, Women’s Health (July 6, 2022), <https://www.womenshealthmag.com/relationships/a36395721/gender-identity-list/>. See also Julie L. Nagoshi, et al., *Deconstructing the Complex Perceptions of Gender Roles, Gender Identity, and Sexual Orientation Among Transgender Individuals*, 22(4) *Feminism & Psychology* 405, 408 (2012) (discussing theories of “gender identity” that insist on the “the fluidity of gender identity”).

Although the proposed amendments do not define “gender identity,” as explained in the previous section there are several indications that the amendments effectively require K-12 schools to implement a self-identification (“self-ID”) system – that is, a system that determines a child’s “gender identity” based solely on the child’s assertions. In a self-ID system, society is required to treat a person according to the gender identity that person declares, regardless of outward expression and regardless of reasonable concerns that the child asserting a transgender identity may be doing so because of other mental health issues or for improper purposes. In a self-ID system, no mental health professional is required to verify the authenticity of the child’s assertion. And, significantly, no meeting is held with the child’s parents. In addition, once the child has declared a new gender identity, the proposed regulation effectively mandates that the K-12 school recognizes that identity and treat it as a legally protected characteristic, thereby implementing what is called “social transition” by using new pronouns, a new name, and allowing the child to use single-sex facilities for the opposite sex.

As mental health professionals who have worked with thousands of gender-nonconforming children, we believe that a system of self-ID combined with mandatory social transition can be very harmful to a child’s psychological well-being and development. For example, for a student who may be struggling with gender dysphoria, social transition may be more harmful than helpful. Gender dysphoria can have many causes, including a traumatic experience such as sexual abuse or rape.¹² Social transition may afford a child an immediate sense of relief, but the trauma remains unidentified and unaddressed. Instead of immediate social transition, the first step in working with a child who claims a new gender identity should be a meeting with a psychotherapist who is trained to diagnose or treat mental health disorders. Teachers and school counselors can certainly be part of a team of supportive professionals who, along with the child’s parents, provide gender dysphoric children with support and therapeutic options. But teachers and school administrators are not mental health professionals and may not fully understand that:

- Gender and sexuality are complex, develop unpredictably over time, and are influenced by many factors (biological, psychological, social, etc.).
- Personal identity is not static. Identity exploration is a normal part of adolescent and young adult development.
- It is extremely difficult to determine if a gender identity experienced during childhood and adolescence will remain fixed into adulthood. Because identity remains in flux during adolescence, teachers and administrators should be very circumspect about implementing social interventions with far-reaching effects.
- Young people may not have the capacity to fully comprehend the impact of gender transition.
- Same-sex attracted youth are often gender nonconforming and may experience distress as they come to terms with their sexual orientation. Gay, lesbian, and bisexual youth may need help and support to accept themselves as they are.

¹² United Kingdom, *The Cass Review, Independent Review of Gender Identity Services for Children and Young People: Interim Report*, at 5-7 (February 2022) (hereinafter *The Cass Review*), Ex. A.

In sum, by requiring schools to socially transition children solely on the basis of the child's self-declared "gender identity," the proposed amendments require school personnel to embark on a powerful psychotherapeutic intervention for which they are not trained.

3. Social Affirmation in School Settings Harms Children by Interfering with Exploratory Psychotherapy and Putting them on a Pathway to Experimental Medical Interventions

First, when children who suffer from gender dysphoria come to believe that adopting an alternate gender identity will relieve their distress, and when teachers and administrators immediately endorse that belief, it prevents the exploration of other unrecognized factors that may be fueling the children's suffering. Given that gender dysphoric children so often present with other serious mental health and neurological issues,¹³ instant social affirmation by school personnel often distracts attention away from those other issues and severely undermines the goals of exploratory therapy. This harms children. When a young person is socially affirmed as a first resort, rather than being helped to explore their gender identity through exploratory psychotherapy, it forecloses a pathway toward self-acceptance – that is, it may prevent them from coming to terms with their sexed body and/or with their developing sexual orientation.¹⁴ This harms children.

Those advocating the importance of social transition and the "affirmation" approach often maintain it is necessary to prevent suicide among transgender youth and that the suicide rate among transgender youth is 41% (much higher than non-transgender youth). Suicide is obviously a serious concern for any child in mental or psychological distress. However, the studies often relied on by advocates of the gender affirmation model to justify automatic social transition and medicalization of minors have been discredited due to the selection bias in the methods used.¹⁵ Moreover, intense focus on gender dysphoria as a singular cause of suicidal ideation or attempt is not only misleading given that so many gender dysphoric individuals present with other mental health problems that are also strongly associated with suicidal tendencies, it is also dangerous

¹³ See Gary Butler, et al., *Assessment and Support of Children and Adolescents with GenderDysphoria*, 103(7) *Archives of Disease in Childhood* 631 (2018), Ex. B; John F. Strang, et al., *Increased Gender Variance in Autism Spectrum Disorders and Attention Deficit Hyperactivity Disorder*, 43(8) *Archives of Sexual Behavior* 1525 (2014), Ex. C.

¹⁴ One study found that 63.7% of boys with early onset gender dysphoria, who received 'watchful waiting' treatment and no pre-pubertal social transition, grew up to be gay or bisexual. Devita Singh, et al., *A Follow-Up Study of Boys with Gender Identity Disorder*, 12 *Frontiers in Psychiatry* 1, 14 (2021), Ex. D.

¹⁵ The frequently repeated claim that 41% of 6,450 transgender respondents said they had attempted suicide at some point in their lives is taken from the National Transgender Discrimination Survey. Jack L. Turban, et al., *Association Between Recalled Exposure to Gender Identity Conversion Efforts and Psychological Distress and Suicide Attempts Among Transgender Adults*, 77(1) *JAMA Psychiatry* 68-76 (2020), <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2749479>. However, a 2021 paper notes that the participants were recruited through transgender advocacy organizations and subjects were asked to "pledge" to promote the survey among friends and family. This recruiting method yielded a large but highly skewed sample. Roberto D'Angelo, et al., *One Size Does Not Fit All: In Support of Psychotherapy for Gender Dysphoria*, 50 *Archives of Sex Behavior* 7-16 (2021), Ex. E.

given the “Werther effect.” This is the well-known phenomenon that certain kinds of reporting on suicide tends to generate imitation suicide attempts.¹⁶ Finally, even when social affirmation is deemed the appropriate approach for a particular young person, the individual’s holistic mental health and well-being must also be taken into account, including the possibility that he or she has physical/mental disabilities or conditions that need to be addressed *in addition to gender dysphoria*.

Second, by socially affirming a child’s gender transition, school personnel often harm rather than help the children involved by pushing them down a pathway to medical transition. A recent study demonstrates that early social transition (i.e., changing the names and pronouns of young people, and then treating them as the opposite sex) tends to concretize an opposite sex or nonbinary identity in the person’s mind,¹⁷ leading them to believe that medical transition is necessary to alleviate their distress. When a young person embarks on medical transition, interventions may include puberty blockers, cross-sex hormones, or surgical procedures aimed at making the child’s body look more like that of a person of the opposite sex or, in some cases, to appear “nonbinary.” Insufficient quality evidence exists to understand all of the short-term and long-term consequences of these medical interventions to physical and mental health. There is no high-quality evidence demonstrating that such medical interventions are beneficial or effective in resolving gender dysphoria and improving mental health.¹⁸ Long-term studies of the serious physical side effects of such medical interventions do not exist, but there is growing evidence that the commonly-prescribed medical interventions, especially the administration of puberty blockers, can leave children permanently infertile and unable to achieve orgasm.¹⁹

For these reasons, several European countries have recently pulled back from medical transitioning of minors. Earlier this year, Sweden’s National Board of Health and Welfare released new guidelines for treating young people with gender dysphoria, holding that “the risks of puberty suppressing treatment with GnRH-analogues and gender-affirming hormonal treatment currently outweigh the possible benefits.” The Board urged that “the treatments should

¹⁶ Francisco J. Acosta, et al., *Suicide Coverage in the Digital Press Media: Adherence to World Health Organization Guidelines and Effectiveness of Different Interventions Aimed at Media Professionals*, 35(13) Health Communication (2020).

¹⁷ Kristina R Olson, et al., *Gender Identity 5 Years After Social Transition*, 150(2) Pediatrics (Aug. 2022), Ex. F.

¹⁸ *Cass Review*, *supra*, at 63.

¹⁹ See, e.g., Shira Baram, et al., *Fertility Preservation for Transgender Adolescents and Young Adults: A Systematic Review*, 25(5) Human Reproduction Update 694 (2019) Ex. G. During a recent conference at Duke University, noted vaginoplasty surgeon Marci Bowers (a transwoman herself) reported that: “Every single child or adolescent who was truly blocked at Tanner Stage 2 [when puberty begins] has never experienced orgasm. I mean, it’s really about zero.” <https://gript.ie/adolescents-who-change-sex-will-never-be-able-to-achieve-sexual-satisfaction-leading-surgeon>.

be offered only in exceptional cases.”²⁰ Likewise, Finland’s Council for Choices in Health Care came to almost the exact same conclusion a year earlier, noting (in translation): “The first-line intervention for gender variance during childhood and adolescent years is psychosocial support and, as necessary, gender-exploratory therapy and treatment for comorbid psychiatric disorders.” Finland’s Council also found that “[i]n light of available evidence, gender reassignment of minors is an experimental practice”; such an intervention “must be done with a great deal of caution, and no irreversible treatment should be initiated.”²¹

In the United Kingdom, following release of Dr. Hilary Cass’s interim report evaluating the Tavistock’s Gender Identity Development Service (GIDS), as well as her subsequent interim letter, the National Health Service recently announced that it would be closing GIDS in Spring 2023, transferring gender services to regional centers operating on a multidisciplinary model. The interim report noted, in particular, that “[t]here is lack of agreement, and in many instances a lack of open discussion, about the extent to which gender incongruence in childhood and adolescence can be an inherent and immutable phenomenon for which transition is the best option for the individual, or a more fluid and temporal response to a range of developmental, social, and psychological factors.”²² Dr. Cass stressed that “[i]t is essential that [gender dysphoric children and young people] can access the same level of psychological and social support as any other child or young person in distress.”²³

In August 2022, the UK law firm of Pogust Goodhead announced that it will be filing a class action lawsuit for damages against GIDS on behalf of children (and their families) whose new gender identity was quickly affirmed without exploratory therapy and who were then rushed onto puberty blockers and cross-sex hormones.²⁴ The law firm of Girard Sharp is currently soliciting clients to explore bringing a similar class action suit here in the United States.²⁵

Third, social transition by school personnel may harm children by exacerbating the phenomenon of peer-group transition. The proposed regulations fail to acknowledge a difference between the cohort of youth experiencing actual gender dysphoria, and the cohort of youth adopting a gender identity without experiencing gender dysphoria. Recent evidence suggests that there is a peer conformist aspect of young people identifying as transgender or nonbinary and desiring social

²⁰ National Board of Health and Welfare, Sweden, *Care of Children and Adolescents with Gender Dysphoria: Summary*, 3 (2022), Ex. H.

²¹ PALKO / COHERE Finland, *Medical Treatment Methods for Dysphoria Related to Gender Variance in Minors* (2020), Ex. I.

²² *The Cass Review*, *supra*, at 16.

²³ *Id.* at 20.

²⁴ Samuel Lovett, *Tavistock Gender Clinic Facing Legal Action over ‘Failure of Care’ Claims*, *The Independent*, Aug. 11, 2022, <https://www.independent.co.uk/news/health/tavistock-gender-clinic-lawyers-latest-b2143006.html>.

²⁵ See <https://www.girardsharp.com/work-investigations-puberty-blockers>.

and medical transition.²⁶ School policies that require *all* students to be affirmed, without question and without reference to any therapeutic diagnosis, result in some students undergoing a serious psychological intervention (social transition) without benefit of mental health treatment for their gender dysphoria, and others undergoing the same social transition without a therapeutic basis for doing so. Both cohorts are then susceptible to progressing from social transition to medical transition.

While high quality studies do not yet exist demonstrating the precise rates, sizeable numbers of youth who socially or medically transition in adolescence later come to regret such transition when they reach young adulthood.²⁷ School policies that affirm anyone who questions their gender identity, or who adopts an alternate gender identity, without individualized psychotherapy, will increase that number. More and more young people will come to regret their transition and suffer because they were affirmed without appropriate therapeutic exploration of the reasons or alternatives to transition.

In sum, the proposed amendments require schools to socially transition children, thus interfering with vital exploratory psychotherapy and pushing children into experimental and in many cases harmful medical interventions.

4. Families of Gender-Nonconforming Children are Harmed by Undisclosed Social Transition of Children

If implemented, the proposed amendments will also harm many families of gender-nonconforming children. As explained in Section 2 above, the proposed amendments almost certainly codify a system of self-ID and mandatory social affirmation. The proposed amendments say nothing about consultation with a child's parents before a school socially transitions a child. Indeed, many school systems in states that recognize gender identity in law now have explicit policies that bar teachers and other school personnel from notifying the child's parents about these very consequential changes without first obtaining the child's permission. For example, guidance provided to teachers in the Chicago Public School system makes clear that school personnel are required to socially transition children who assert transgender identities

²⁶ Lisa Littman, *Parent Reports of Adolescents and Young Adults Perceived to Show Signs of a Rapid Onset of Gender Dysphoria*, 13(8) PLoS One (2018), Ex. J. Supporters of the self-ID and mandatory affirmation model attempted to have the *PLoS One* journal editors retract Dr. Littman's article, and activists have claimed that Dr. Littman's study has been discredited. This is incorrect. The *PLoS One* editors asked Dr. Littman to make minor changes to clarify the study design, methods, and limitations, which she did. See <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0214157>.

²⁷ Numerous websites devoted to detransition stories can be found online. See, e.g., <https://www.detransvoices.org>, <https://post-trans.com>, and <https://www.transgendertrend.com/detransition>. On March 12, 2022, Genspect.org hosted the first annual Detrans Awareness Day conference devoted to the stories of those who regretted their gender transition and returned to living as their biological sex. The full video of that conference can be viewed at <https://www.youtube.com/watch?v=AnvZvqwIR7o>. The r/detrans Reddit (with 38K+ members) also contains many such first-person accounts: <https://www.reddit.com/r/detrans/>.

without consulting the child's parents. "Parent(s)/guardian(s) [sic] consent is not required to address a student by their affirmed name and pronouns."²⁸ These guidelines also require "school staff" to hide the fact that a child has socially transitioned at school from parents unless the child gives permission. "It is not required for parents to participate" in the "Student Administrative Support Team" meetings concerning their child's "gender transition."²⁹ School staff are told that they "shall comply" with the Support Team's "recommendations in communicating with parents."³⁰ The U.S. Department of Education and Justice's 2016 *Dear Colleague Letter* also indicates that parental consent is unnecessary: "The Departments interpret Title IX to require that when a student or the student's parent or guardian, *as appropriate*, notifies the school administration that the student will assert a gender identity that differs from previous representations or records, the school will begin treating the student consistent with the student's gender identity."³¹ Lawsuits have been filed by parents who are justifiably angry that a school would socially transition their children without consulting them.

The legality of these practices under U.S. constitutional and statutory law is now being tested in the courts.³² Our focus is on the consequences of covert social transition for the mental health of children and their parents. Based on our work with thousands of families, we are of the opinion that social transition of K-12 children without the consent of and discussion with the child's parents is an enormous overreach by schools that has destabilized many families and disrupted otherwise healthy parent-child relationships that are the foundation for the child's mental health.

We are aware that, in some situations, family relationships are not healthy and child abuse is a very real concern. We are also aware that some parents are intolerant of gender-nonconforming behavior and expression by their children. The concern is that if a child who claims an opposite-sex gender identity is "outed" to the parents, the parents will reject the child or the child's proclaimed identity, just as happened to many gay adults in their childhoods. In our experience, however, today the norm is not parental rejection of a gender-nonconforming child. Most parents are very supportive of their gender-nonconforming children. But parental support does not require unquestioning affirmation of their child's newly-disclosed gender identity. In the vast majority of cases, parents have a much deeper understanding of the child's life experiences and other mental health challenges, including recent traumas and other neurological conditions (e.g., Autism, ADHD, Anxiety Disorder). The parents may very well, and accurately, believe that their

²⁸ *Chicago Guidelines, supra*, at 5.

²⁹ *Id.* at 3.

³⁰ *Id.* at 5. *See also, N.Y. Guidance to School Districts, supra*, at 7 ("School personnel should speak with the student first before discussing a student's gender nonconformity or transgender status with the student's parent or guardian. For the same reasons, school personnel should discuss with the student how the school should refer to the student, e.g., appropriate pronoun use, in written communication to the student's parent or guardian.").

³¹ *2016 Dear Colleague Letter, supra*, at 2.

³² *See, e.g., Compl. John Doe et al. v. Madison Metropolitan School District*, 20-CV-454 (Cir. Ct. Dane Cty., Wisc., Feb. 18, 2020); *D.F. v. The School Bd. of the City of Harrisonburg, VA*, CL22-1304 (Cir. Ct. Rockingham Cty., VA, Jun. 1, 2022).

child's turn to gender is a distraction from other difficulties the child is facing. Social transition in this case may distract the child – and those around him or her – from the necessary process of examining and managing other problems in the child's life.

Parents are often very concerned that the social transition of a child at school, without the parent's knowledge, will lead the child to seek out medical treatments to attempt to bring his or her body into alignment with the new gender identity. For many parents who would otherwise have no problem letting their child experiment with different identities, the push to medicalize childhood transition is the 300-pound gorilla in the room. We know of many instances where children have learned about puberty blockers, hormone treatment, and surgical procedures online, from peers at school, or even in school sex education classes. The child later demands those treatments from their parents and, in the mind of the child struggling with mental health issues, the parents' refusal to consent to such treatments becomes evidence of parental rejection. This is an incredibly difficult position for parents to be in, as they may be very concerned about disruption of their child's normal physiological development and permanent alterations to their child's body, including sterilization and loss of sexual function.

For a school to socially transition a child without consulting the parents, and to actively hide that transition from parents, is incredibly harmful to the parent-child relationship. In our experience, it also leaves the parents very distrustful of the school. Important familial and community relationships have been harmed by the system of self-ID and social transition currently operating in some state laws and education systems. The proposed amendments to the Title IX regulations would elevate that system to federal law, multiplying this harmful policy throughout the United States.

5. The Proposed Amendments Will Harm the Mental Health of other Students

As currently written, the proposed amendments interpreting Title IX to protect “gender identity” would also have a profound impact on the mental health of other students. A mandatory system of social transition based purely on self-ID means that other students could be subject to punitive measures if they fail to socially affirm a fellow student's declared “gender identity.” We recognize that misgendering can be painful for a gender-nonconforming individual, and that bullying of gender-nonconforming children should never be tolerated. However, with a system of self-ID in which there appears to be no mechanism in place to ensure that a student will not misuse or even abuse the concept of “gender identity,” it is unrealistic to assume that every child's assertion of a new gender identity will be authentic and stable. We are concerned that by mandating social affirmation of an individual student's self-declared gender identity by other students, the proposed amendments will breed resentment among other students. It could also lead to backlash against *all* gender-nonconforming students.

The erosion of single-sex spaces and the privacy those spaces provide for children, especially tweens and teens, will also harm the mental health of students. Other K-12 students have an interest in single-sex spaces while in a state of undress. This is true of male and female children. Today, tweens and teens are hesitant to vocalize this concern about the presence of opposite-sex peers in locker rooms and bathrooms because they risk being tarred with the brush of bigotry if

they express concern. In states where gender identity is currently recognized as a basis for using opposite-sex bathrooms and locker room facilities, policies make clear that other students' concerns should not be a basis for excluding an opposite-sex gender-nonconforming student from the facilities of his or her choice.³³ Indeed, the 2016 *Dear Colleague Letter* makes clear that any other students' "discomfort" should not provide a basis for rejecting a gender-nonconforming student's request to be treated as the opposite sex. The letter states: "As is consistently recognized in civil rights cases, the desire to accommodate others' discomfort cannot justify a policy that singles out and disadvantages a particular class of students."³⁴

This approach frankly trivializes the concerns of other students and especially those of female students who have a very reasonable expectation that they should be able to change clothes for gym class without having a male-bodied person in the locker room. As mental health professionals, we have worked extensively with young people who have experienced sexual trauma. As a general matter, female students are far more likely to have been sexually abused, assaulted, or raped, and the vast majority of the perpetrators of such crimes are male.³⁵ These girls are far more likely to feel vulnerable in school, and to experience anxiety and PTSD when they feel at risk. Undressing in the presence of a male-bodied student (regardless of how that student identifies) is precisely the kind of situation that causes serious anxiety responses in victims of sexual abuse and violence. In addition, tween and teenage students going through enormous, visible bodily changes have a very reasonable expectation to single-sex spaces for going to the bathroom and changing clothes. For this population, an approach to gender identity that allows male-bodied peers to self-ID as girls, thus allowing them access of single-sex spaces where female students are in various states of undress, is candidly callous and cruel.

Most existing school policies on this point state that the student who is uncomfortable with an opposite-sex person in a single-sex space, such as a locker room, should be offered an alternative space, presumably because the gender-nonconforming student will be stigmatized by having to use an alternative space. It is not at all clear from the proposed amendments to the Title IX regulations why the mental well-being of one group of students is being preferred over the mental well-being and privacy interests of another group. This is especially true given that the regulations in question were originally enacted in 1972 in order to open up educational opportunities to girls and women.

³³ See, e.g., *Conn. Civil Rights Protections*, *supra*, at 6; *N.Y. Guidance to School Districts*, *supra*, at 9-10.

³⁴ 2016 *Dear Colleague Letter*, *supra*, at 2.

³⁵ According to the Rape, Abuse & Incest National Network ("RAINN"), 82% of all juvenile victims of sexual violence and incest are female, and 90% of adult rape victims are female. See <https://www.rainn.org/statistics/victims-sexual-violence>. Moreover, male perpetrators commit approximately 95% of criminal acts of sexual violence against females. Michael Planty, et al., *Female Victims of Sexual Violence, 1994-2010*, at 5 n.2 (U.S. Department of Justice, 2013), <https://bjs.ojp.gov/content/pub/pdf/fvsv9410.pdf>.

For the reasons stated above, we urge the U.S. Department of Education to abandon the sections of the proposed amendments that address “gender identity.” The proposed amendments will be harmful to students, both those questioning their gender identities and those who are not. Students questioning their gender identities, or who are diagnosed with gender dysphoria, can be protected from abusive treatment and aided in their struggles without facing the risks posed by a policy that requires schools to affirm and validate students’ gender identities based solely on the individual student’s self-declarations.

The Gender Exploratory Therapy Association

Lisa Marchiano, LCSW
 Stella O’Malley, MA
 Sasha Ayad, M.Ed., LPC
 Roberto D’Angelo, PsyD, M.Med.
 Joseph Burgo, PhD
 Joanne Sinai, MD, MEd
 Stephanie Winn, MA, LMFT
 Temple Morris, LCSW-C
 Rachel Carlson MA
 Julie P. Reimann, M. Coun.
 Rosie Campbell, MA Art Psychotherapy
 Terry Patterson Mac’s Psychodynamic Counselling
 Heather A Mullin
 Robert Withers, Jungian Analyst
 David Clarke Pruden, MS
 Thomas Preston, PhD, ABPP
 Sarah Edmonds, PhD
 Lynne Glover
 Louise Clara
 Lisa Duval
 Mari Dickerson, LCSW
 David M. Haralson, PhD, LMFT
 Dina Critel-Rathje, MS, LIMHP
 Michelle Peixinho, LCSW
 Brooke Laufer, PsyD.
 Tammy Carvalho MS Professional Counseling
 Jerry T. Lawler, PhD, Clinical Psychologist
 Jill Edelstein, MSW, LCSW
 Mary M Kennedy, PsyD
 Tania Marshall, M.Sc. (App. Psych), B.A. (Psych)
 Susan Evans SRN, RMN Psychoanalytic Psychotherapist
 Sophie Frost-MA Psychoanalytic Psychotherapy
 Andrew B. Clark, MD

Anya S Dashevsky, Psy.D.
Dr Harriette Parnes
Cindy Eades, MAC, LPC
Kristen Farrell-Turner, PhD
F.R. Robinson, LPC, MA in Professional Counseling
Michelle Mackness, MC
Bret Alderman, PhD in Depth Psychology
Susanne Navas, MA & MEd Clinical Mental Health Counseling (May 2023)
Heather Gilley, Grad Student for School Counseling
Kathryn Hingle, BS
Judith Heppner, MSW, RSW
Jan Horner MS, LPC
Marcus Evans
Aaron Kimberly, BScN, RN

The Cass Review

Independent review
of gender identity
services for children
and young people:
Interim report

February 2022



Independent review of gender identity services for children and young people: Interim report

February 2022

The copyright holder has consented to third parties republishing the material contained in this report. Where any material, or the copyright in such material, is identified as being owned by a third party you will need to obtain permission from that third party before republishing such material.

Contents

About this report	7
A letter to children and young people	9
Introduction from the Chair	11
1. Summary and interim advice	14
Summary	15
Conceptual understanding and consensus about the meaning of gender dysphoria	16
Service capacity and delivery	16
Service standards	17
International comparisons	18
Existing evidence base	18
The mismatch between service user expectations and clinical standards	19
Interim advice	20
Service model	20
Clinical approach	22
2. Context	25
Transgender, non-binary and gender fluid adults	26
Terminology and diagnostic frameworks	26
Conceptual understanding of gender incongruence in children and young people	27
3. Current services	29
Current service model for gender-questioning children and young people	30
Changing epidemiology	32
Challenges to the service model and clinical approach	34
NHS England Policy Working Group	35
Feminising/masculinising hormones	36
Puberty blockers	37
Initiation of Cass Review	39
CQC inspection	39
Legal background	40
The Multi-Professional Review Group	43

4. What the review has heard so far	44
Listening sessions	45
What we have heard from service users, their families and support and advocacy groups	45
What we have heard from healthcare professionals	47
Structured engagement with primary, secondary and specialist clinicians	49
Professional panel – primary and secondary care	49
Gender specialist questionnaire	50
Findings	50
5. Principles of evidence based service development	53
Evidence based service development	54
Key stages of service development	55
New condition observed	55
Aetiology	55
Natural history and prognosis	55
Epidemiology	57
Assessment and diagnosis	59
Developing and implementing new treatments	61
Service development and service improvement	65
6. Interim advice, research programme and next steps	67
Dealing with uncertainty	68
Interim advice	69
Service model	69
Clinical approach	71
Research programme	73
Literature review	73
Quantitative research	74
Qualitative research	74
Progress	75
Ongoing engagement	76
Glossary	77
Appendix 1: Terms of reference	86
Appendix 2: Letter to NHS England	89
Appendix 3: Diagnostic criteria for gender dysphoria	94
Appendix 4: Clinical service development	98
References	107

About this report

This interim report represents the work of the independent review of gender identity services for children and young people to date. It reflects a point in time. It does not set out final recommendations; these will be developed over the coming months, informed by our formal research programme.

This Review is forward looking. Its role is to consider how to improve and develop the future clinical approach and service model. However, in order to do this, it is first necessary to understand the current landscape and the reasons why change is needed, so that any future model addresses existing challenges, whilst retaining those features that service users and the professionals supporting them most value.

This report is primarily for the commissioners and providers of services for children and young people needing support around their gender. However, because of the wide interest in this topic, we have included some explanations about how clinical service development routinely takes place in the NHS, which sets the context for some of our interim advice.

The care of this group of children and young people is everyone's business. We therefore encourage the wider clinical community to take note of our work and consider their own roles in providing the best holistic support to this population.

Since the Review began, it has focused on hearing a wide range of perspectives to better understand the challenges within the current system and aspirations for how these could be addressed. This report does not contain all that we have heard during our listening sessions but summarises consistent themes. These conversations will continue throughout the course of the Review and there will be further opportunities for stakeholders to engage and contribute.

It is important to note that the references cited in this report do not constitute a comprehensive literature review and are included only to clarify why specific lines of enquiry are being pursued, and where there are unanswered questions that will be addressed more fully during the life of the Review. A formal literature review is one strand of the Review's commissioned work, and this will be reported in full when complete.

A note about language

There is sometimes no consensus on the best language to use relating to this subject. The language surrounding this area has also changed rapidly and young people have developed varied ways of describing their experiences using different terms and constructs that are relevant to them.

The Review tries as far as possible to use language and terms that are respectful and acknowledge diversity, but that also accurately illustrate the complexity of what we are trying to describe and articulate.

The terms we have used may not always feel right to some; nevertheless, it is important to emphasise that the language used is not an indication of a position being taken by the Review. A glossary of terms is included.

The Review is cognisant of the broader cultural and societal debates relating to the rights of transgender adults. It is not the role of the Review to take any position on the beliefs that underpin these debates. Rather, this Review is strictly focused on the clinical services provided to children and young people who seek help from the NHS to resolve their gender-related distress.

A letter to children and young people

Children and young people accessing the NHS deserve safe, timely and supportive services, and clinical staff with the training and expertise to meet their healthcare needs.



Dr Hilary Cass

I understand that as you read this letter some of you may be anxious because you are waiting to access support from the NHS around your gender identity. Maybe you have tried to get help from your local services, or from the Gender Identity Development Service (GIDS), and because of the long waiting lists they have not yet been able to see you. I hope that some of you have had help – maybe from a supportive GP, a local Child and Adolescent Mental Health Service (CAMHS), or from GIDS.

I have heard that young service users are particularly worried that I will suggest that services should be reduced or stopped. I want to assure you that this is absolutely not the case – the reverse is true. I think that more services are needed for you, closer to where you live. The GIDS staff are working incredibly hard and doing their very best to see you as quickly as possible but providing supportive care is not something that can be rushed – each young person needs enough time and space for their personal needs to be met. So, with the best will in the world, one service is not going to be able to respond to the growing demand in a timely way.

I am advising that more services are made available to support you. But I must be honest; this is not something that can happen overnight, and I can't come up with a solution that will fix the problems immediately. However, we do need to start now.

The other topic that I know is worrying some of you is whether I will suggest that hormone treatments should be stopped. On this issue, I have to share my thoughts as a doctor. We know quite a bit about hormone treatments, but there is still a lot we don't know about the long-term effects.

Whenever doctors prescribe a treatment, they want to be as certain as possible that the benefits will outweigh any adverse effects so that when you are older you don't end up saying 'Why did no-one tell me that that might happen?' This includes understanding both the risks and benefits of having treatment and not having treatment.

Therefore, what we will be doing over the next few months is trying to make sense of all the information that is available, as well as seeing if we can plug any of the gaps in the research. I am currently emphasising the importance of making decisions about prescribing as safe as possible. This means making sure you have all the information you need – about what we do know and what we don't know.

Finally, some of you may want the chance to talk to me and share your thoughts about how services should look in the future. Over the coming months we will need your help and there will be opportunities to get involved with the Review, so please keep an eye on our website (www.cass.independent-review.uk), where we will provide updates on our work.

A handwritten signature in black ink, appearing to read 'Hilary', with a large loop at the end.

Dr Hilary Cass, OBE

Introduction from the Chair

Anyone with an interest in the care of gender-questioning children and young people, as well as those with lived experience, may have wondered what qualifies me to take on this Review, and whether I have a pre-existing position on this subject.

I am a paediatrician who was in clinical practice until 2018, my area of specialism being children and young people with disability. I have also held many management and policy roles throughout my career, most notably as President of the Royal College of Paediatrics and Child Health (RCPCH) from 2012-15.

Children's services are often at a disadvantage in healthcare because health services are usually designed around the needs of adults. As President of RCPCH, a key part of my role was to advocate for services to be planned with children and families at their heart.

I have not worked in gender services during my career, but my strong focus on hearing the voice of service users, supporting vulnerable young people, equity of access, and strong clinical standards applies in this area as much as in my other work.

With this in mind, the aim of the Review is to ensure that children and young people who are experiencing gender incongruence or gender-related distress receive a high standard of NHS care that meets their needs and is safe, holistic and effective.

I have previously set out the principles governing this Review process, namely that:

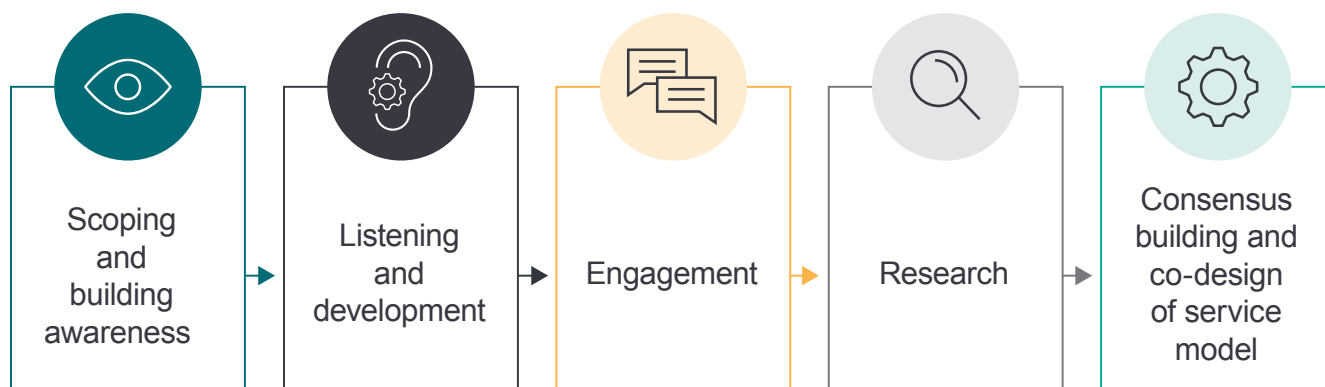
- The welfare of the child and young person will be paramount in all considerations.
- Children and young people must receive a high standard of care that meets their needs.
- There will be extensive and purposeful stakeholder engagement, including ensuring that children and young people can express their own views through a supportive process.
- The Review will be underpinned by research and evidence, including international models of good practice where available.
- There will be transparency in how the Review is conducted and how recommendations are made.
- There are no pre-determined outcomes with regards to the recommendations the Review will make.

The Review's terms of reference (**Appendix 1**) are wide ranging in scope, looking at different aspects of gender identity services across the whole pathway through primary, secondary and specialist services, up to the point of transition to adult services. This includes consideration of referral pathways, assessment, appropriate clinical management and workforce recommendations.

I have also been asked to explore the reasons for the considerable increase in the number of referrals, which have had a significant impact on waiting times, as well as the changing case-mix of gender-questioning children and young people presenting to clinical services.

The Review is taking an investigative approach to understanding what the future service model should look like for children and young people. This means that its outcomes are not being developed in isolation or by committee but rather through an ongoing dialogue aimed at building a shared understanding of the current situation and how it can and should be improved.

The key aspects of the approach to the Review are:



My starting point has been to hear from a variety of experts with relevant expertise and those with lived experience to understand as many perspectives as possible. To date, this has included hearing directly from those with lived experience, from professionals and support and advocacy groups. This listening process will continue.

We have been very fortunate in the generosity of all those who have been prepared to talk to the Review and share their experiences. In addition to some divergent opinions, there are also some themes and views which seem to be widely shared. The commitment of professionals at all levels is striking and I genuinely believe that with collective effort we can improve services for the children and young people who are at the heart of this Review.

These discussions have been valuable to get an in-depth sense of the current situation and different viewpoints on how it may be improved. However, it is essential that this initial understanding is underpinned by more detailed data and an enhanced evidence base, which is being delivered through the Review's academic research programme.

Providing this evidence base for the Review is going to take some time. I recognise there is a pressing need to enhance the services currently available for children, young people, their

parents and carers, some of whom are experiencing considerable distress. Clinicians providing their treatment and care are also under pressure and cannot sustain the current workload. As such, I know the time I am taking to complete this Review and make recommendations will be difficult for some, but it is necessary.

I wrote to NHS England in May 2021 (**Appendix 2**) setting out some more immediate considerations whilst awaiting my full recommendations. This report builds on that letter and looks to provide some further interim advice.

Through our research programme, the Review team will continue to examine the literature and, where possible, will fill gaps in the existing evidence base. However, there will be persisting evidence gaps and areas of uncertainty. We need the engagement of service users, support and advocacy groups, and professionals across the wider workforce to work with us in the coming months in a collaborative and open-minded manner in order to reach a shared understanding of the problems and an agreed way forward that is in the best interests of children and young people.

My measure of success for this Review will be that this group of children and young people receive timely, appropriate and excellent care, not just from specialists but from every healthcare professional they encounter as they take the difficult journey from childhood to adulthood.

1. Summary and interim advice



Summary

1.1. In recent years, there has been a significant increase in the number of referrals to the Gender Identity Development Service (GIDS) at the Tavistock and Portman NHS Foundation Trust. This has contributed to long waiting lists and growing concern about how the NHS should most appropriately assess, diagnose and care for this population of children and young people.

1.2. Within the UK, the single specialist service has developed organically, and the clinical approach has not been subjected to some of the usual control measures that are typically applied when new or innovative treatments are introduced. Many of the challenges and knowledge gaps that we face in the UK are echoed internationally,¹ and there are significant gaps in the research and evidence base.

1.3. This Review was commissioned by NHS England to make recommendations on how to improve services provided by the NHS to children and young people who are questioning their gender identity or experiencing gender incongruence and ensure that the best model for safe and effective services is commissioned (**Appendix 1**).

1.4. This interim report represents the Review's work to date. It sets out what we have heard so far and the approach we are taking moving forward. There is still much evidence to be gathered, questions to be answered, and voices to be heard, and our perspective will evolve as more evidence comes to light. However, there is sufficient clarity on several areas for the Review to be able to offer advice at this stage so that action can be taken more quickly.

1.5. The Review is not able to provide definitive advice on the use of puberty blockers and feminising/masculinising hormones at this stage, due to gaps in the evidence base; however, recommendations will be developed as our research programme progresses.

Every gender-questioning child or young person who seeks help from the NHS must receive the support they need to get on the appropriate pathway for them as an individual.

Children and young people with gender incongruence or dysphoria must receive the same standards of clinical care, assessment and treatment as every other child or young person accessing health services.

¹ Vrouenraets LJ, Fredriks AM, Hannema SE, Cohen-Kettenis PT, de Vries MC (2015). [Early medical treatment of children and adolescents with gender dysphoria: an empirical ethical study](#). J Adolesc Health 57(4): 367-73. DOI: 10.1016/.2015.04.004.

Conceptual understanding and consensus about the meaning of gender dysphoria

1.6. In clinical practice, a diagnosis of gender dysphoria is currently based on an operational definition, using the criteria set out in DSM-5 (**Appendix 3**). Some of these criteria are seen by some as outdated in the context of current understanding about the flexibility of gender expression.

1.7. At primary, secondary and specialist level, there is a lack of agreement, and in many instances a lack of open discussion, about the extent to which gender incongruence in childhood and adolescence can be an inherent and immutable phenomenon for which transition is the best option for the individual, or a more fluid and temporal response to a range of developmental, social, and psychological factors. Professionals' experience and position on this spectrum may determine their clinical approach.

1.8. Children and young people can experience this as a 'clinician lottery', and failure to have an open discussion about this issue is impeding the development of clear guidelines about their care.

Service capacity and delivery

1.9. A rapid change in epidemiology and an increase in referrals means that the number of children seeking help from the NHS is now outstripping the capacity of the single national specialist service, the Gender Identity Development Service (GIDS) at The Tavistock and Portman NHS Foundation Trust.

1.10. The mix of young people presenting to the service is more complex than seen previously, with many being neurodiverse and/or having a wide range of psychosocial and mental health needs. The largest group currently comprises birth-registered females first presenting in adolescence with gender-related distress.

1.11. Until very recently, any local professional, including non-health professionals, could refer to GIDS, which has meant that the quality and appropriateness of referrals lacks consistency, and local service provision has remained patchy and scarce.

1.12. The staff working within the specialist service demonstrate a high level of commitment to the population they serve. However, the waiting list pressure and lack of consensus development on the clinical approach, combined with criticism of the service, have all resulted in rapid turnover of staff and inadequate capacity to deal with the increasing workload. Capacity constraints cannot be addressed through financial investment alone; there are some complex workforce (recruitment; retention; and training) and cultural issues to address.

1.13. Our initial work has indicated that many professionals working at primary and secondary level feel that they have the transferable skills and the commitment to offer more robust support to this group of children and young people, but are nervous about doing so, partly because of the lack of formal clinical guidance, and partly due to the broader societal context.

1.14. Primary and secondary care staff have told us that they feel under pressure to adopt an unquestioning affirmative approach and that this is at odds with the standard process of clinical assessment and diagnosis that they have been trained to undertake in all other clinical encounters.

1.15. Children and young people are waiting lengthy periods to access GIDS, during which time some may be at considerable risk. By the time they are seen, their distress may have worsened, and their mental health may have deteriorated.

1.16. Another significant issue raised with us is one of diagnostic overshadowing – many of the children and young people presenting have complex needs, but once they are identified as having gender-related distress, other important healthcare issues that would normally be managed by local services can sometimes be overlooked.

1.17. The current move to adult services at age 17-18 may fall at a critical time in the young person's gender management. In contrast, young people with neurodiversity often remain under children's services until age 19 and some other clinical services continue to mid-20s. Further consideration will be needed regarding the age of transfer to adult services.

Service standards

1.18. The Multi-Professional Review Group (MPRG), set up by NHS England to ensure that procedures for assessment and for informed consent have been properly followed, has stated that the following areas require consideration:

- From the point of entry to GIDS there appears to be predominantly an affirmative, non-exploratory approach, often driven by child and parent expectations and the extent of social transition that has developed due to the delay in service provision.
- From documentation provided to the MPRG, there does not appear to be a standardised approach to assessment or progression through the process, which leads to potential gaps in necessary evidence and a lack of clarity.
- There is limited evidence of mental health or neurodevelopmental assessments being routinely documented, or of a discipline of formal diagnostic or psychological formulation.
- Of 44 submissions received by the MPRG, 31% were not initially assured due to lack of safeguarding information. And in a number of cases there were specific safeguarding concerns. There do not appear to be consistent processes in place to work with other agencies to identify children and young people and families who may be vulnerable, at risk and require safeguarding.

- Appropriate clinical experts need to be involved in informing decision making.

1.19. Many of these issues were also highlighted by the Care Quality Commission (CQC) in 2020.²

International comparisons

1.20. The Netherlands was the first country to provide early endocrine interventions (now known internationally as the Dutch Approach). Although GIDS initially reported its approach to early endocrine intervention as being based on the Dutch Approach,³ there are significant differences in the NHS approach. Within the Dutch Approach, children and young people with neurodiversity and/or complex mental health problems are routinely given therapeutic support in advance of, or when considered appropriate, instead of early hormone intervention. Whereas criteria to have accessed therapeutic support prior to starting hormone blocking treatment do not appear to be integral to the current NHS process.

1.21. NHS endocrinologists do not systematically attend the multi-disciplinary meetings where the complex cases that may be referred to them are discussed, and until very recently did not routinely have

direct contact with the clinical staff member who had assessed the child or young person. This is not consistent with some international approaches for this group of children and young people, or in other multi-disciplinary models of care across paediatrics and adult medicine where challenging decisions about life-changing interventions are made.^{4,5}

1.22. In the NHS, once young people are started on hormone treatment, the frequency of appointments drops off rather than intensifies, and review usually takes place quarterly. Again, this is different to the Dutch Approach.⁶ GIDS staff would recommend more frequent contact during this period, but the fall-off in appointments reflects a lack of service capacity, with the aspiration being for more staff time to remedy this situation.

Existing evidence base

1.23. Evidence on the appropriate management of children and young people with gender incongruence and dysphoria is inconclusive both nationally and internationally.

² Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report](#). London: CQC.

³ de Vries ALC, Cohen-Kettenis PT (2012). [Clinical management of gender dysphoria in children and adolescents: the Dutch approach](#). J Homosex 59: 301–320. DOI: 10.1080/00918369.2012.653300.

⁴ Ibid.

⁵ Kyriakou A, Nicolaidis NC, Skordis N (2020). [Current approach to the clinical care of adolescents with gender dysphoria](#). Acta Biomed 91(1): 165–75. DOI: 10.23750/abm.v91i1.9244.

⁶ de Vries ALC, Cohen-Kettenis PT (2012). [Clinical management of gender dysphoria in children and adolescents: the Dutch approach](#). J Homosex 59: 301–320. DOI: 10.1080/00918369.2012.653300.

1.24. A lack of a conceptual agreement about the meaning of gender dysphoria hampers research, as well as NHS clinical service provision.

1.25. There has not been routine and consistent data collection within GIDS, which means it is not possible to accurately track the outcomes and pathways that children and young people take through the service.

1.26. Internationally as well as nationally, longer-term follow-up data on children and young people who have been seen by gender identity services is limited, including for those who have received physical interventions; who were transferred to adult services and/or accessed private services; or who desisted, experienced regret or detransitioned.

1.27. There has been research on the short-term mental health outcomes and physical side effects of puberty blockers for this cohort, but very limited research on the sexual, cognitive or broader developmental outcomes.⁷

1.28. Much of the existing literature about natural history and treatment outcomes for gender dysphoria in childhood is based on a case-mix of predominantly birth-registered males presenting in early childhood. There is much less data on the more recent case-mix of predominantly

birth-registered females presenting in early teens, particularly in relation to treatment and outcomes.

1.29. Aspects of the literature are open to interpretation in multiple ways, and there is a risk that some authors interpret their data from a particular ideological and/or theoretical standpoint.

The mismatch between service user expectations and clinical standards

1.30. By the time children and young people reach GIDS, they have usually had to experience increasingly long, challenging waits to be seen.⁸ Consequently, some feel they want rapid access to physical interventions and find having a detailed assessment distressing.

1.31. Clinical staff are governed by professional, legal and ethical guidance which demands that certain standards are met before a treatment can be provided. Clinicians carry responsibility for their assessment and recommendations, and any harm that might be caused to a patient under their care. This can create a tension between the aspirations of the young person and the responsibilities of the clinician.

⁷ National Institute for Health and Care Excellence (2020). [Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria](#).

⁸ Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report](#). London: CQC.

Interim advice

1.32. The Review considers that there are some areas where there is sufficient clarity about the way forward and we are therefore offering some specific observations and interim advice. The Review will work with NHS England, providers and the broader stakeholder community to progress action in these areas.

Service model

1.33. It has become increasingly clear that a single specialist provider model is not a safe or viable long-term option in view of concerns about lack of peer review and the ability to respond to the increasing demand.

1.34. Additionally, children and young people with gender-related distress have been inadvertently disadvantaged because local services have not felt adequately equipped to see them. It is essential that they can access the same level of psychological and social support as any other child or young person in distress, from their first encounter with the NHS and at every level within the service.

1.35. A fundamentally different service model is needed which is more in line with other paediatric provision, to provide timely and appropriate care for children and young people needing support around their gender identity. This must include support for any other clinical presentations that they may have.

1.36. The Review supports NHS England's plan to establish regional services, and welcomes the move from a single highly specialist service to regional hubs.

1.37. Expanding the number of providers will have the advantages of:

- creating networks within each area to improve early access and support;
- reducing waiting times for specialist care;
- building capacity and training opportunities within the workforce;
- developing a specialist network to ensure peer review and shared standards of care; and
- providing opportunities to establish a more formalised service improvement strategy.

Service provision

1.38. The primary remit of NHS England's proposed model is for the regional hubs to provide support and advice to referrers and professionals. However, it includes limited provision for direct contact with children and young people and their families.

1: The Review advises that the regional centres should be developed, as soon as feasibly possible, to become direct service providers, assessing and treating children and young people who may need specialist care, as part of a wider pathway. The Review team will work with NHS England and stakeholders to further define the proposed model and workforce implications.

2: Each regional centre will need to develop links and work collaboratively with a range of local services within their geography to ensure that appropriate clinical, psychological and social support is made available to children and young people who are in early stages of experiencing gender distress.

3: Clear criteria will be needed for referral to services along the pathway from primary to tertiary care so that gender-questioning children and young people who seek help from the NHS have equitable access to services.

4: Regional training programmes should be run for clinical practitioners at all levels, alongside the online training modules developed by Health Education England (HEE). In the longer-term, clearer mapping of the required workforce, and a series of competency frameworks will need to be developed in collaboration with relevant professional organisations.

Data, audit and research

1.39. A lack of routine and consistent data collection means that it is not possible to accurately track the outcomes and pathways children and young people take through the service. Standardised data collection is required in order to audit service standards and inform understanding of the epidemiology, assessment and treatment of this group. This, alongside a national network which brings providers together, will help build knowledge and improve outcomes through shared clinical standards and systematic data collection. In the longer-term, formalisation of such a network into a learning health system⁹ with an academic host would mean that there was systematised use of data to produce a continuing research programme with rapid translation into clinical practice and a focus on training.

⁹ Scobie S, Castle-Clarke S (2019). [Implementing learning health systems in the UK NHS: Policy actions to improve collaboration and transparency and support innovation and better use of analytics](#). Learning Health Systems 4(1): e10209. DOI:10.1002/lrh2.10209.

5: The regional services should have regular co-ordinated national provider meetings and operate to shared standards and operating procedures with a view to establishing a formal learning health system.

6: Existing and future services should have standardised data collection in order to audit standards and inform understanding of the epidemiology, assessment and treatment of this group of children and young people.

7: Prospective consent of children and young people should be sought for their data to be used for continuous service development, to track outcomes, and for research purposes. Within this model, children and young people put on hormone treatment should be formally followed up into adult services, ideally as part of an agreed research protocol, to improve outcome data.

Clinical approach

Assessment processes

1.40. We have heard that there are inconsistencies and gaps in the assessment process. Our work to date has also demonstrated that clinical staff have different views about the purpose of assessment and where responsibility lies for different components of the process within the pathway of care. The Review team has commenced discussions with clinical staff across primary, secondary and tertiary care to develop a framework for these processes.

8: There needs to be agreement and guidance about the appropriate clinical assessment processes that should take place at primary, secondary and tertiary level.

9: Assessments should be respectful of the experience of the child or young person and be developmentally informed. Clinicians should remain open and explore the patient's experience and the range of support and treatment options that may best address their needs, including any specific needs of neurodiverse children and young people.

Hormone treatment

1.41. The issues raised by the Multi-Professional Review Group echo several of the problems highlighted by the CQC. It is essential that principles of the General Medical Council's Good Practice in Prescribing and Managing Medicine's and Devices¹⁰ are closely followed, particularly given the gaps in the evidence base regarding hormone treatment. Standards for decision making regarding endocrine treatment should also be consistent with international best practice.^{11,12,13}

10: Any child or young person being considered for hormone treatment should have a formal diagnosis and formulation, which addresses the full range of factors affecting their physical, mental, developmental and psychosocial wellbeing. This formulation should then inform what options for support and intervention might be helpful for that child or young person.

11: Currently paediatric endocrinologists have sole responsibility for treatment, but where a life-changing intervention is given there should also be additional medical responsibility for the differential diagnosis leading up to the treatment decision.

1.42. Paediatric endocrinologists develop a wide range of knowledge within their paediatric training, including safeguarding, child mental health, and adolescent development. Being party to the discussions and deliberations that have led up to the decision for medical intervention supports them in carrying out their legal responsibility for consent to treatment and the prescription of hormones.

12: Paediatric endocrinologists should become active partners in the decision making process leading up to referral for hormone treatment by participating in the multidisciplinary team meeting where children being considered for hormone treatment are discussed.

¹⁰ General Medical Council (2021). [Good practice in prescribing and managing medicines and devices \(76-78\)](#).

¹¹ Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al (2017). [Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society clinical practice guideline](#). J Clin Endocrinol Metab 102(11): 3869–903. DOI: 10.1210/jc.2017-01658.

¹² Cohen-Kettenis PT, Steensma TD, de Vries ALC (2001). [Treatment of adolescents with gender dysphoria in the Netherlands](#). Child Adolesc Psychiatr Clin N Am 20: 689–700. DOI: 10.1016/j.chc.2011.08.001.

¹³ Kyriakou A, Nicolaides NC, Skordis N (2020). [Current approach to the clinical care of adolescents with gender dysphoria](#). Acta Biomed 91(1): 165–75. DOI: 10.23750/abm.v91i1.9244.

1.43. Given the uncertainties regarding puberty blockers, it is particularly important to demonstrate that consent under this circumstance has been fully informed and to follow GMC guidance¹⁴ by keeping an accurate record of the exchange of information leading to a decision in order to inform their future care and to help explain and justify the clinician's decisions and actions.

13: Within clinical notes, the stated purpose of puberty blockers as explained to the child or young person and parent should be made clear. There should be clear documentation of what information has been provided to each child or young person on likely outcomes and side effects of all hormone treatment, as well as uncertainties about longer-term outcomes.

14: In the immediate term the Multi-Professional Review Group (MPRG) established by NHS England should continue to review cases being referred by GIDS to endocrine services.

¹⁴ General Medical Council (2020). [Decision making and consent](#).

2. Context



Transgender, non-binary and gender fluid adults

2.1. NHS clinical services to support transgender adults with hormone treatment and subsequent surgery began in 1966.

2.2. Services were initially established within a mental health model, in conjunction with endocrinology and surgical services.

2.3. Currently, NHS services for transgender adults do not have adequate capacity to cope with demand.¹⁵ In addition, the broader healthcare needs of this group are not well met. This is important in the context of the current generation of gender-questioning children and young people in that there are now two inflows into adult services – individuals transitioning in adulthood, and those moving through from children’s services.

2.4. Legal rights and protections for transgender people lagged behind the provision of medical services, with the Gender Recognition Act 2004 coming into force in April 2005. Over the last few years, broader discussions about transgender issues have been played out in public, with discussions becoming increasingly polarised and adversarial. This polarisation is such that it undermines safe debate and creates difficulties in building consensus.

2.5. It is not the role of this Review to take any position on the cultural and societal debates relating to transgender adults. However, in achieving its objectives there is a need to consider the information and support that children and young people access from whatever source, as well as any pressures that they are subject to, before they access clinical services.

Terminology and diagnostic frameworks

2.6. The Office for National Statistics defines sex as “referring to the biological aspects of an individual as determined by their anatomy, which is produced by their chromosomes, hormones and their interactions; generally male or female; something that is assigned at birth”.¹⁶

2.7. The Office for National Statistics defines gender as “a social construction relating to behaviours and attributes based on labels of masculinity and femininity; gender identity is a personal, internal perception of oneself and so the gender category someone identifies with may not match the sex they were assigned at birth”.¹⁷

2.8. Societal attitudes towards gender roles and gender expression are changing. Children, teenagers and younger adults may more commonly see gender as a fluid, multi-faceted phenomenon which

¹⁵ Gender Identity Clinic, The Tavistock and Portman NHS Foundation Trust. [Waiting times](#).

¹⁶ Office for National Statistics (2019). [What is the difference between sex and gender?](#)

¹⁷ Ibid.

does not have to be binary, whereas older generations have tended to see gender as binary and fixed. It is not unusual for young people to explore both their sexuality and gender as they go through adolescence and early adulthood before developing a more settled identity. Many achieve this without experiencing significant distress or requiring support from the NHS, but this is not the case for all.

2.9. For those who require support from the NHS, there are two widely used frameworks which provide diagnostic criteria. The International Classification of Diseases (ICD), which is the World Health Organization (WHO) mandated health data standard, and the Diagnostic and Statistical Manual of Mental Disorders (DSM), which is the classification system for mental health disorders produced by the American Psychiatric Association. The current editions of these manuals – ICD-11 and DSM-5 – came into effect in January 2022 and 2013 respectively.

2.10. ICD-11¹⁸ has attempted to depathologise gender diversity, removing the term ‘gender identity disorders’ from its mental health section and creating a new section for gender incongruence and transgender identities in a chapter on sexual health. These changes are part of a much broader societal drive to remove the stigma previously associated with transgender healthcare. ICD-11

defines gender incongruence as being “characterised by a marked incongruence between an individual’s experienced/expressed gender and the assigned sex.” Gender variant behaviour and preferences alone are not a basis for assigning the diagnosis. The full criteria for gender incongruence of childhood and gender incongruence of adolescence or adulthood are listed in **Appendix 3**.

2.11. DSM-5¹⁹ is currently the framework used to diagnose gender dysphoria. This diagnostic category describes gender dysphoria as “the distress that may accompany the incongruence between one’s experienced or expressed gender and one’s assigned gender”. A diagnosis of gender dysphoria is usually deemed necessary before a young person can access hormone treatment, and criteria are listed in **Appendix 3**.

Conceptual understanding of gender incongruence in children and young people

2.12. Children and young people presenting to gender identity services are not a homogeneous group. They vary in their age at presentation, their cultural background, whether they identify as binary, non-binary, or gender fluid, whether they are neurodiverse and in a host of other ways.

¹⁸ World Health Organization (2022). [International Classification of Diseases Eleventh Revision](#).

¹⁹ American Psychiatric Association (2013). [Diagnostic and Statistical Manual of Mental Health Disorders: DSM-5™, 5th ed.](#)

2.13. Some children and young people may thrive during a period of gender-questioning whilst for others it can be accompanied with a level of distress that can have a significant impact on their functioning and development.

2.14. Alongside these very varied presentations, it is highly unlikely that a single cause for gender incongruence will be found. Many authors view gender expression as a result of a complex interaction between biological, cultural, social and psychological factors.

2.15. Despite a high level of agreement about these points, there are widely divergent and, in some instances, quite polarised views among service users, parents, clinical staff and the wider public about how gender incongruence and gender-related distress in children and young people should be interpreted, and this has a bearing on expectations about clinical management.

2.16. These views will be influenced by how each individual weighs the balance of factors that may lead to gender incongruence, and the distress that may accompany it. Beliefs about whether it might be inherent and/or immutable, whether it might be a transient response to adverse experiences, whether it might be highly fluid and/or likely to change in later adolescence/early adulthood, etc will have

a profound influence on expectations about treatment options.²⁰

2.17. All of these views may be overlaid with strongly held concerns about children's and young people's rights, autonomy, and/or protection.

2.18. The disagreement and polarisation is heightened when potentially irreversible treatments are given to children and young people, when the evidence base underlying the treatments is inconclusive, and when there is uncertainty about whether, for any particular child or young person, medical intervention is the best way of resolving gender-related distress.

2.19. As with many other contemporary polarised disagreements, the situation is exacerbated when there is no space to have open, non-judgemental discussions about these differing perspectives. A key aim of this review process will be to encourage such discussions in a safe and respectful manner so that progress can be made in finding solutions.

²⁰ Wren B (2019). Notes on a crisis of meaning in the care of gender-diverse children. In: Hertzmann L, Newbigin J (eds) *Sexuality and Gender Now: Moving Beyond Heteronormativity*. Routledge.

3. Current services



Current service model for gender-questioning children and young people

3.1. Currently there are no locally or regionally commissioned services for children and young people who seek help from the NHS in managing their gender-related distress. Within primary and secondary care, some clinical staff have more interest and expertise in initial management of this group of young people, but such individuals are few and far between.

3.2. The pathway for NHS support around gender identity for children and young people is designated as a highly specialised service.²¹ The Gender Identity Development Service (GIDS) at the Tavistock and Portman NHS Foundation Trust is commissioned by NHS England to provide specialist assessment, support and, where appropriate, hormone intervention for children and young people with gender dysphoria. It is the only NHS provider of specialist gender services for children and young people in England. The Trust runs satellite bases in Leeds and Bristol. Until recently GIDS accepted referrals from multiple sources, for example, GPs, secondary care, social care, schools, and support and advocacy groups, which is unusual for a specialist service.

3.3. Children and young people are assessed by two members of the GIDS team who may be any combination of psychologists, psychotherapists, family therapists, or social workers. If there is uncertainty about the right approach, individual cases may be discussed in a complex case meeting. Those deemed appropriate for physical interventions are referred on to the endocrine team; under the current Standard Operating Procedure (SOP), this decision requires a multi-disciplinary team (MDT) discussion within GIDS. A member of the GIDS team attends new appointments in the endocrine clinic, but they will not routinely be the member of staff who saw the young person for assessment. However, very recently a triage meeting has been piloted to enable endocrinologists to discuss upcoming appointments with the clinician who saw the young person for assessment. The young person then attends an education session prior to their endocrine appointment. The endocrinologist will assess any medical contraindications prior to seeking consent from the patient for any hormone treatments.

3.4. For many years, the GIDS approach was to offer assessment and support, and to only start puberty blockers when children reached sexual maturity at about age 15 (Tanner Stage 5) as the first step in the treatment process to feminise or masculinise the young person, with

²¹ [National Health Service Commissioning Board and Clinical Commissioning Groups \(Responsibilities and Standing Rules\) Regulations 2012.](#)

oestrogen or testosterone given from age 16. Feminising/masculinising hormones are not given at an earlier stage because of the irreversibility of some of their actions in developing secondary sex characteristics of the acquired gender.^{22,23}

3.5. In 1998, a new protocol was published by the Amsterdam gender identity clinic.²⁴ It was subsequently named the Dutch Approach.²⁵ This involved giving puberty blockers much earlier, from the time that children showed the early signs of puberty (Tanner Stage 2), to pause further pubertal changes of the sex at birth. This stage of pubertal development was chosen because it was felt that although many younger children experienced gender incongruence as a transient developmental phenomenon, those who expressed early gender incongruence which continued into puberty were unlikely to desist at that stage.

3.6. It was felt that blocking puberty would buy time for children and young people to fully explore their gender identity and help with the distress caused by the development of their secondary sexual characteristics. The Dutch criteria

for treating children with early puberty blockers were: (i) a presence of gender dysphoria from early childhood; (ii) an increase of the gender dysphoria after the first pubertal changes; (iii) an absence of psychiatric comorbidity that interferes with the diagnostic work-up or treatment; (iv) adequate psychological and social support during treatment; and (v) a demonstration of knowledge and understanding of the effects of gonadotropin-releasing hormones (puberty blockers), feminising/masculinising hormones, surgery, and the social consequences of sex reassignment.²⁶

3.7. Under the Dutch Approach, feminising/masculinising hormones were started at age 16 and surgery was permitted to be undertaken from age 18, as in England.

3.8. From 2011, early administration of puberty blockers was started in England under a research protocol, which partially paralleled the Dutch Approach (the Early Intervention Study). From 2014, this protocol was adopted by GIDS as routine clinical practice. Results of the Early Intervention Study were published in December 2021.²⁷

²² Delemarre-van de Wall HA, Cohen-Kettenis PT (2006). [Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects](#). Eur J Endocrinol 155 (Suppl 1): S131–7. DOI: 10.1530/eje.1.02231.

²³ de Vries ALC, Cohen-Kettenis PT (2012). [Clinical management of gender dysphoria in children and adolescents: the Dutch approach](#). J Homosex 59: 301–320. DOI: 10.1080/00918369.2012.653300.

²⁴ Cohen-Kettenis PT, Van Goozen S (1998). [Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent](#). Eur Child Adolesc Psychiatry 7: 246–8. DOI: 10.1007/s007870050073.

²⁵ de Vries ALC, Cohen-Kettenis PT (2012). [Clinical management of gender dysphoria in children and adolescents: the Dutch approach](#). J Homosex 59: 301–320. DOI: 10.1080/00918369.2012.653300.

²⁶ Ibid.

²⁷ Carmichael P, Butler G, Masic U, Cole TJ, De Stavola BL, Davidson S, et al (2021). [Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK](#). PLoS One. 16(2):e0243894. DOI:10.1371/journal.pone.0243894.

3.9. However, the Dutch Approach differs from the GIDS approach in having stricter requirements about provision of psychological interventions. For example, under the Dutch Approach, if young people have gender confusion, aversion towards their sexed body parts, psychiatric comorbidities or Autism Spectrum Disorder (ASD) related diagnostic difficulties, they may receive psychological interventions only, or before, or in combination with medical intervention. Of note, in 2011, the Amsterdam team were reporting that up to 10% of their referral base were young people with ASD.²⁸

Changing epidemiology

3.10. In the last few years, there has been a significant change in the numbers and case-mix of children and young people being referred to GIDS.²⁹ From a baseline of approximately 50 referrals per annum in 2009, there was a steep increase from 2014-15, and at the time of the CQC inspection of the Tavistock and Portman NHS Foundation Trust in October 2020 there were 2,500 children and young people being referred per annum, 4,600 children and young people on the waiting list, and a waiting time of over two years

to first appointment.³⁰ This has severely impacted on the capacity of the existing service to manage referrals in the safe and responsive way that they aspire to and has led to considerable distress for those on the waiting list.

3.11. This increase in referrals has been accompanied by a change in the case-mix from predominantly birth-registered males presenting with gender incongruence from an early age, to predominantly birth-registered females presenting with later onset of reported gender incongruence in early teen years. In addition, approximately one third of children and young people referred to GIDS have autism or other types of neurodiversity. There is also an over-representation percentage wise (compared to the national percentage) of looked after children.³¹

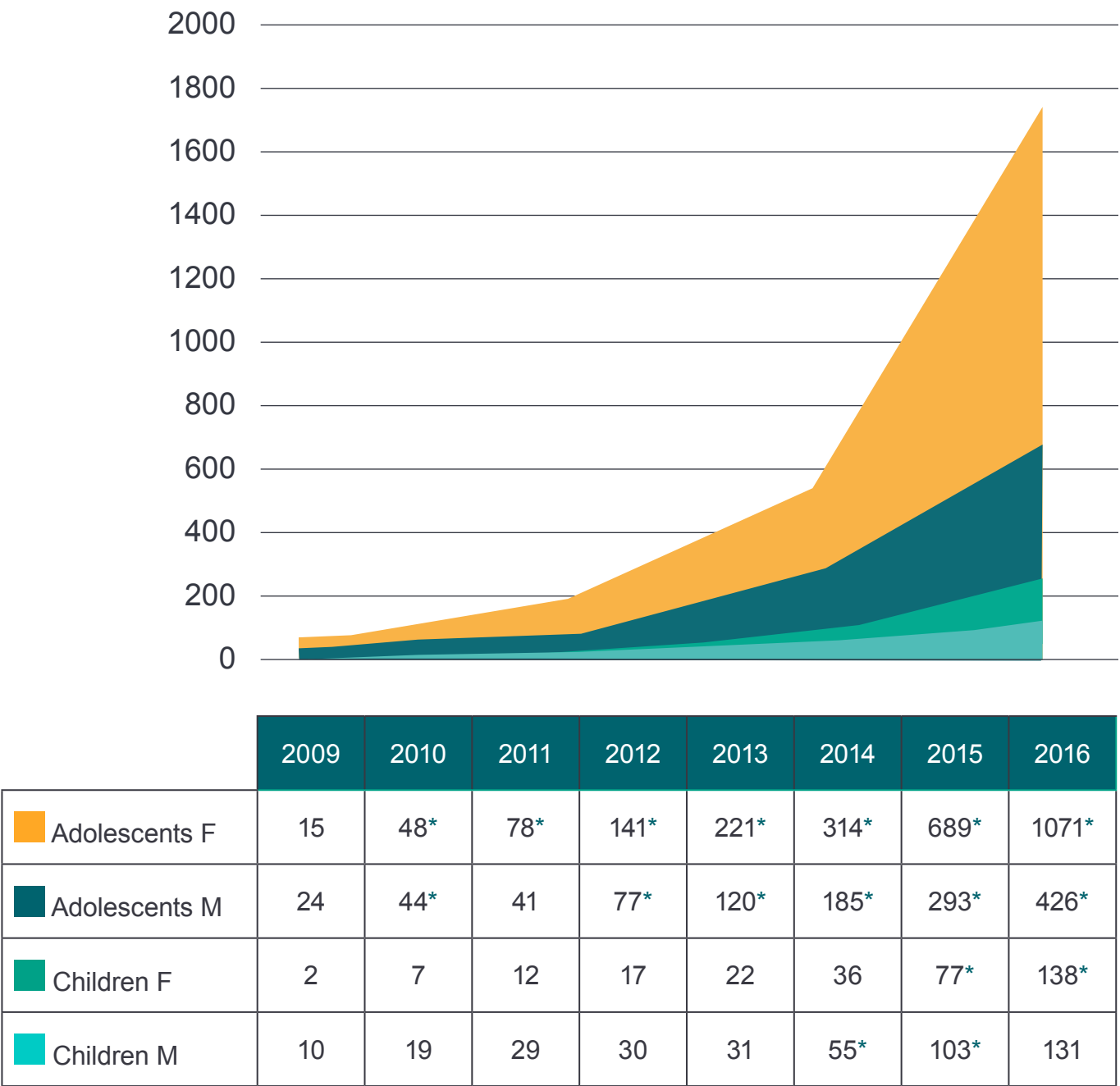
²⁸ Cohen-Kettenis PT, Steensma TD, de Vries ALC (2001). [Treatment of adolescents with gender dysphoria in the Netherlands](#). Child Adolesc Psychiatr Clin N Am 20: 689–700. DOI: 10.1016/j.chc.2011.08.001.

²⁹ de Graaf NM, Giovanardi G, Zitz C, Carmichael P (2018). [Sex ratio in children and adolescents referred to the gender identity development service in the UK \(2009-2016\)](#). Arch Sex Behav 47(5): 1301–4.

³⁰ Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report](#). London: CQC.

³¹ Matthews T, Holt V, Sahin S, Taylor A, Griksaitis (2019). [Gender Dysphoria in looked-after and adopted young people in a gender identity development service](#). Clinical Child Psychol Psychiatry 24: 112-128. DOI: 10.1177/1359104518791657.

Figure 1: Sex ratio in children and adolescents referred to GIDS in the UK (2009-16)



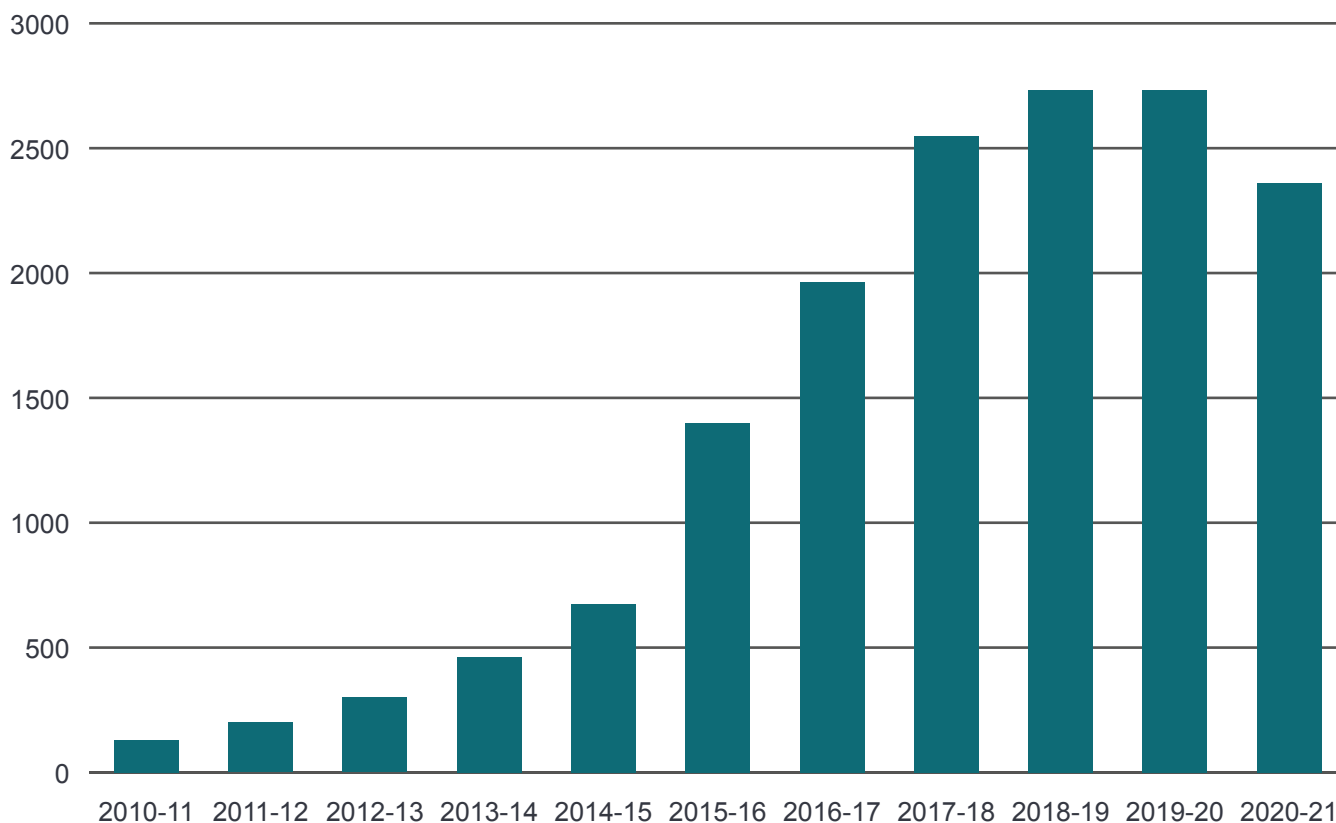
AFAB = assigned female at birth; **AMAB** = assigned male at birth

***Indicates** p<.05 which shows a significant increase of referrals compared to the previous year

Source: de Graaf NM, Giovanardi G, Zitz C, Carmichael P (2018).³²

³² de Graaf NM, Giovanardi G, Zitz C, Carmichael P (2018). [Sex ratio in children and adolescents referred to the gender identity development service in the UK \(2009-2016\)](#). Arch Sex Behav 47(5): 1301–4.

Figure 2: Referrals to GIDS, 2010-11 to 2020-21



Source: Gender Identity Development Service.³³

3.12. In 2019, GIDS reported that about 200 children and young people from a referral base of 2,500 were referred on to the endocrine pathway. There is no published data on how the other children and young people from this referral baseline were managed, for example if: their gender dysphoria was resolved; they were still being assessed or receiving ongoing psychological support and input; they were not eligible for puberty blockers due to age; they were referred to endocrine services at a later stage; they were transferred to adult services; or they accessed private services.

Challenges to the service model and clinical approach

3.13. Over a number of years, in parallel with the increasing numbers of referrals, GIDS faced increasing challenges, both internally and externally. There were different views held within the staff group about the appropriate clinical approach, with some more strongly affirmative and some more cautious and concerned about the use of physical intervention. The complexity of the cases had also increased, so clinical decision making had become more difficult. There was also a high staff

³³ Gender Identity Development Service. [Referrals to GIDS, financial years 2010-11 to 2020-21](#).

turnover, and accounts from staff concerned about the clinical care, which were picked up in both mainstream and social media. This culminated in 2018 with an internal report by a staff governor.

3.14. Following that report, a review was carried out in 2019 by the Trust's medical director. This set out the need for clearer processes for the service's referral management, safeguarding, consent, and clinical approach, and an examination of staff workload and support, and a new Standard Operating Procedure (SOP) was put in place.

NHS England Policy Working Group

3.15. In January 2020, a Policy Working Group (PWG) was established by NHS England to undertake a review of the published evidence on the use of puberty blockers and feminising/masculinising hormones in children and young people with gender dysphoria to inform a policy position on their future use. Given the increasingly evident polarisation among clinical professionals, Dr Cass was asked to chair the group as a senior clinician with no prior involvement or fixed views in this area. The PWG comprised an expert group including endocrinologists, child and adolescent psychiatrists and paediatricians representing their respective Royal

Colleges, an ethicist, a GP, senior clinicians from the NHS GIDS, a transgender adult and parents of gender-questioning young people. The process was supported by a public health consultant and policy, pharmacy and safeguarding staff from NHS England.

3.16. NHS England uses a standardised protocol for developing clinical policies. The first step of this involves defining the PICO (the Population being treated, the Intervention, a Comparator treatment, and the intended Outcomes). This of itself was challenging, with a particular difficulty being definition of the intended outcomes of puberty blockers, and suitable comparators for both hormone interventions. However, agreement was reached on what should be included in the PICO and subsequently the National Institute for Health and Care Excellence (NICE) was commissioned to review the published evidence,^{34,35} again following a standardised protocol which has strict criteria about the quality of studies that can be included.

3.17. Unfortunately, the available evidence was not strong enough to form the basis of a policy position. Some of the challenges and outstanding uncertainties are summarised as follows.

³⁴ National Institute for Health and Care Excellence (2020). [Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria](#).

³⁵ National Institute for Health and Care Excellence (2020). [Evidence review: gender-affirming hormones for children and adolescents with gender dysphoria](#).

Feminising/masculinising hormones

3.18. Sex hormones have been prescribed for transgender adults for several decades, and the long-term risks and side effects are well understood. These include increased cardiovascular risk, osteoporosis, and hormone-dependent cancers.

3.19. In young people, consideration also needs to be given to the impact on fertility, with the need for fertility counselling and preservation.

3.20. The additional physical risk of starting these treatments at age 16+ rather than age 18+ is unlikely to add significantly to the total lifetime risk, although data on this will not be available for many years. However, as evidenced by take-up of treatment with feminising/masculinising hormones, where there is a high level of certainty that physical transition is the right option, the child or young person may be more accepting of these risks, which can seem remote from the immediate gender distress.

3.21. The most difficult question in relation to feminising/masculinising hormones therefore is not about long-term physical risk which is tangible and easier to understand. Rather, given the irreversible nature of many of the changes, the greatest difficulty centres on the decision to proceed to physical transition; this relies on the effectiveness of the assessment, support and counselling processes, and ultimately the shared decision making between

clinicians and patients. Decisions need to be informed by long-term data on the range of outcomes, from satisfaction with transition, through a range of positive and negative mental health outcomes, through to regret and/or a decision to detransition. The NICE evidence review demonstrates the poor quality of these data, both nationally and internationally.

3.22. Regardless of the nature of the assessment process, some children and young people will remain fluid in their gender identity up to early to mid-20s, so there is a limit as to how much certainty one can achieve in late teens. This is a risk that needs to be understood during the shared decision making process with the young person.

3.23. It is also important to note that any data that are available do not relate to the current predominant cohort of later-presenting birth-registered female teenagers. This is because the rapid increase in this subgroup only began from around 2014-15. Since young people may not reach a settled gender expression until their mid-20s, it is too early to assess the longer-term outcomes of this group.

Puberty blockers

3.24. The administration of puberty blockers is arguably more controversial than administration of the feminising/masculinising hormones, because there are more uncertainties associated with their use.

3.25. There has been considerable discussion about whether the treatment is 'experimental'; strictly speaking an experimental treatment is one that is being given as part of a research protocol, and this is not the case with puberty blockers, because the GIDS research protocol was stopped in 2014. At that time, the treatment was experimental and innovative, because the drug was licensed for use in children, but specifically for children with precocious puberty. This was therefore the first time it was used 'off-label' in the UK for children with gender dysphoria. If a drug is used 'off-label' it means it is being used for a condition that is different from the one for which it was licensed. The many uncertainties around the 'off-label' use were recognised, but given that this was not a new drug, it did not need Medicines and Healthcare products Regulatory Agency (MHRA) approval at that time.

3.26. The important question now, as with any treatment, is whether the evidence for the use and safety of the medication is strong enough as judged by reasonable clinical standards.

3.27. One of the challenges that NHS England's PWG faced in considering this question was the lack of clarity about intended outcomes, several of which have been proposed including:

- providing time/space for the young person to make a decision about continuing with transition;
- reducing or preventing worsening of distress;
- improving mental health; and
- stopping potentially irreversible pubertal changes which might later make it difficult for the young person to 'pass' in their intended gender role.

3.28. Proponents for the use of puberty blockers highlight the distress that young people experience through puberty and the risk of self-harm or suicide.³⁶ However, some clinicians do not feel that distress is actually alleviated until children and young people are able to start feminising/masculinising hormones. The Review will seek to gain a better understanding of suicide data and the impact of puberty blockers through its research programme.

3.29. On the other hand, it has been asserted that starting puberty blockers at an older age provides children and young people with more time to achieve fertility preservation. In the case of birth-registered males, there is an argument that it also

³⁶ Turban JL, King D, Carswell JM, et al (2020). [Pubertal suppression for transgender youth and risk of suicidal ideation](#). *Pediatrics* 145 (2): e20191725. DOI: 10.1542/peds.2019-1725.

allows more time to achieve adequate penile growth for successful vaginoplasty.

3.30. In the short-term, puberty blockers may have a range of side effects such as headaches, hot flushes, weight gain, tiredness, low mood and anxiety, all of which may make day-to-day functioning more difficult for a child or young person who is already experiencing distress. Short-term reduction in bone density is a well-recognised side effect, but data is weak and inconclusive regarding the long-term musculoskeletal impact.³⁷

3.31. The most difficult question is whether puberty blockers do indeed provide valuable time for children and young people to consider their options, or whether they effectively 'lock in' children and young people to a treatment pathway which culminates in progression to feminising/masculinising hormones by impeding the usual process of sexual orientation and gender identity development. Data from both the Netherlands³⁸ and the study conducted by GIDS³⁹ demonstrated that almost all children and young people who are put on puberty blockers go on to sex hormone treatment (96.5% and 98%

respectively). The reasons for this need to be better understood.

3.32. A closely linked concern is the unknown impacts on development, maturation and cognition if a child or young person is not exposed to the physical, psychological, physiological, neurochemical and sexual changes that accompany adolescent hormone surges. It is known that adolescence is a period of significant changes in brain structure, function and connectivity.⁴⁰ During this period, the brain strengthens some connections (myelination) and cuts back on others (synaptic pruning). There is maturation and development of frontal lobe functions which control decision making, emotional regulation, judgement and planning ability. Animal research suggests that this development is partially driven by the pubertal sex hormones, but it is unclear whether the same is true in humans.⁴¹ If pubertal sex hormones are essential to these brain maturation processes, this raises a secondary question of whether there is a critical time window for the processes to take place, or whether catch up is possible when oestrogen or testosterone is introduced later.

³⁷ National Institute for Health and Care Excellence (2020). [Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria](#).

³⁸ Brik T, Vrouenraets LJ, de Vries MC, Hannema SE (2020). [Trajectories of adolescents treated with gonadotropin-releasing hormone analogues for gender dysphoria](#). Arch Sex Behav 49: 2611–8. DOI: 10.1007/s10508-020-01660-8.

³⁹ Carmichael P, Butler G, Masic U, Cole TJ, De Stavola BL, Davidson S, et al (2021). [Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK](#). PLoS One. 16(2):e0243894. DOI:10.1371/journal.pone.0243894.

⁴⁰ Delevichab K, Klinger M, Nana OJ, Wilbrecht L (2021). [Coming of age in the frontal cortex: The role of puberty in cortical maturation](#). Semin Cell Dev Biol 118: 64–72. DOI: 10.1016/j.semcdb.2021.04.021.

⁴¹ Goddings A-L, Beltz A, Jiska S, Crone EA, Braams BR (2019). [Understanding the role of puberty in structural and functional development of the adolescent brain](#). J Res Adolesc 29(1): 32–53. DOI: 10.1111/jora.12408.

3.33. An international interdisciplinary panel⁴² has highlighted the importance of understanding the neurodevelopmental outcomes of pubertal suppression and defined an appropriate approach for investigating this further. However, this work has not yet been undertaken.

Initiation of Cass Review

3.34. Dr Cass' own reflections on the PWW process, the available literature, and the issues it highlighted were as follows:

- Firstly, that hormone treatment is just one possible outcome for gender-questioning children and young people. A much better understanding is needed about: the increasing numbers of children and young people with gender-related distress presenting for help; the appropriate clinical pathway for each individual; their support needs; and the full range of potential treatment options.
- Secondly, there is very limited follow-up of the subset of children and young people who receive hormone treatment, which limits our understanding about the long-term outcomes of these treatments and this lack of follow up data should be corrected.

- Thirdly, the assessment process is inconsistent across the published literature. The outcome of hormone treatment is highly influenced by whether the assessment process accurately selects those children and young people most likely to benefit from medical treatment. This makes it difficult to draw conclusions from published studies.

3.35. In light of the above, NHS England commissioned this independent review to make recommendations on how the clinical management and service provision for children and young people who are experiencing gender incongruence or gender-related distress can be improved.

CQC inspection

3.36. In October and November 2020, the Care Quality Commission (CQC) inspectors carried out an announced, focused inspection of GIDS due to concerns reported to them by healthcare professionals and the Children's Commissioner for England. Concerns related to clinical practice, safeguarding procedures, and assessments of capacity and consent to treatment.

⁴² Chen D, Strang JF, Kolbuck VD, Rosenthal SM, Wallen K, Waber DP, et al (2020). [Consensus parameter: research methodologies to evaluate neurodevelopmental effects of pubertal suppression in transgender youth](#). Transgender Health 5(4). DOI: 10.1089/trgh.2020.0006.

3.37. The CQC report, published in January 2021,⁴³ gave the service an overall rating of inadequate. The report noted the high level of commitment and caring approach of the staff but identified a series of issues that needed improvement. In addition to the growing waiting list pressures, the CQC identified problems in several other areas including: the assessment and management of risk; the variations in clinical approach; the lack of clarity and consistency of care plans; the lack of any clear written rationale for decision making in individual cases; and shortfalls in the multidisciplinary mix required for some patient groups. Recording of capacity, competency and consent had improved since the new SOP in January 2020; however, there remained a culture in which staff reported feeling unable to raise concerns.

3.38. The CQC reported that when it inspected GIDS, there did not appear to be a formalised assessment process, or standard questions to explore at each session, and it was not possible to tell from the notes why an individual child might have been referred to endocrinology whilst another had not. Current GIDS data demonstrate that a majority of children and young people seen by the service do not get referred for endocrine treatment, but there is no clear information about what

other diagnoses they receive, and what help or support they might need.

3.39. Since the CQC report, NHS England and The Tavistock and Portman NHS Foundation Trust management team have been working to address the issues raised. However, whilst some problems require a focused Trust response, the waiting list requires a system-wide response. This was noted in the letter from the Review to NHS England in May 2021 (**Appendix 2**).

Legal background

3.40. This section sets out the chronology of recent case law. In October 2019, a claim for Judicial Review was brought against The Tavistock and Portman NHS Foundation Trust. The claimants' case was summarised by the High Court as follows: "The claimants' case is that children and young persons under 18 are not competent to give consent to the administration of puberty blocking drugs. Further, they contend that the information given to those under 18 by the defendant [GIDS] is misleading and insufficient to ensure such children or young persons are able to give informed consent. They further contend that the absence of procedural safeguards, and the inadequacy of the information provided, results in an infringement of the rights of such children and young persons under Article 8 of the European Convention

⁴³ Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report](#). London: CQC.

for the Protection of Human Rights and Fundamental Freedoms.”⁴⁴

3.41. In December 2020, three judges in the High Court of England and Wales handed down judgment in *Bell v Tavistock*.⁴⁵ (Most cases in the High Court are heard by a single judge sitting alone, and when a case is heard by more than one judge in the High Court, it is described as the Divisional Court.) The Divisional Court recognised that the Tavistock’s policies and practices as set out in the service specification were not unlawful. However, the Court made a declaration that set out in detail a series of implications of treatment that a child would need to understand to be *Gillick* competent⁴⁶ to consent to puberty blockers. Specifically, because most children put on puberty blockers go on to have feminising/masculinising hormones, the judgment said a child would need to understand not only the full implications of puberty blocking drugs, but also the implications of the full pathway of medical and surgical transition. The judges concluded that it will be “very doubtful” that 14-15 year-olds have such competence, and “highly unlikely” that children aged 13 or under have competence for that decision. Under the Mental Capacity Act 2005, 16-17 year-olds are presumed to have capacity, and they are effectively treated as adults for consent to medical treatment under the Family Law Reform Act 1969 section 8, but the judges

suggested that it would be appropriate for clinicians to involve the court in any case where there were doubts as to whether the proposed treatment would be in the long term best interests of a 16-17 year-old.

3.42. Following the Divisional Court judgment in *Bell v Tavistock*, a claim was brought against the Tavistock in the High Court Family Division by the mother of a child for a declaration that she and the child’s father had the ability in law to consent on behalf of their child to the administration of puberty blockers (*AB v CD*).⁴⁷ The Court concluded that “the parents’ right to consent to treatment on behalf of the child continues even when the child is *Gillick* competent to make the decision, save where the parents are seeking to override the decision of the child” [para 114] and that there is no “general rule that puberty blockers should be placed in a special category by which parents are unable in law to give consent” [para 128].

⁴⁴ [Bell v Tavistock. \[2020\] EWHC 3274 \(Admin\).](#)

⁴⁵ [Ibid.](#)

⁴⁶ [Gillick v West Norfolk and Wisbech AHA \[1986\] AC 112.](#)

⁴⁷ [AB v CD & Ors \[2021\] EWHC 741.](#)

3.43. Subsequently, the Tavistock appealed the Divisional Court's earlier decision in *Bell v Tavistock* and was successful.⁴⁸ The Court of Appeal held that it was not appropriate for the Divisional Court to provide the guidance about the likelihood of having *Gillick* competence at particular ages, or about the need for court approval [para 91]. The Court of Appeal went on to say "The Divisional Court concluded that Tavistock's policies and practices (as expressed in the service specification and the SOP) were not unlawful and rejected the legal criticism of its materials. In those circumstances, the claim for judicial review is dismissed." [para 91]. However, clinicians should "take great care before recommending treatment to a child and be astute to ensure that the consent obtained from both child and parents is properly informed" [para 92].

3.44. The Court of Appeal in *Bell v Tavistock* recognised the lawfulness of treating children for gender dysphoria in this jurisdiction. Recognising the divergences in medical opinion, morality and ethics, it indicated that the question of whether treatment should be made available is a matter of policy "for the National Health Service, the medical profession and its regulators and Government and Parliament" [para 3].

3.45. Following the Divisional Court decision in *Bell v Tavistock*, new referrals for puberty blockers were suspended and a requirement was put in place that children currently on puberty blockers were reviewed with a view to court proceedings for a judge to determine the best interests for children in whom these medications were considered essential. This requirement was changed following *AB v CD*, with the reinstatement of the hormone pathway in March 2021. However, an external panel, the Multi Professional Review Group (MPRG), was established to ensure that procedures for assessment and for informed consent had been properly followed. The outcome of the *Bell* appeal has not changed this requirement, which is contingent not just on the legal processes but on the concerns raised by CQC regarding consent, documentation and clarity about decision making within the service.⁴⁹

⁴⁸ [EWCA \[2021\] Civ 1363](#).

⁴⁹ Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report](#). London: CQC.

The Multi-Professional Review Group

3.46. NHS England has established a Multi-Professional Review Group (MPRG) to review whether the agreed process has been followed for a child to be referred into the endocrinology clinic and to be prescribed treatment. The Review has spoken directly to the MPRG, which has reported its observations of current practice.

3.47. The MPRG has stated that its work has been impeded by delays in the provision of clinical information, the lack of structure in the documentation received, and gaps in the necessary evidence. This means that when reviewing the documents provided it is not always easy to determine if the process for referral for endocrine treatment has been fully or safely followed for a particular child or young person.

3.48. The MPRG indicates that there does not appear to be a standardised approach to assessment. They are particularly concerned about safeguarding shortfalls within the assessment process. There is also limited evidence of systematic, formal mental health or neurodevelopmental assessments being routinely documented, or of a discipline of formal diagnostic formulation in relation to co-occurring mental health difficulties. This issue was also highlighted by the Care Quality Commission (CQC).⁵⁰

3.49. Additionally, there is concern that communications to GPs and parents regarding prescribed treatment with puberty blockers sometimes come from non-medical staff.

⁵⁰ Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report](#). London: CQC.

4. What the review has heard so far



Listening sessions

4.1. Since its establishment, the Review has met with an extensive range of stakeholders, including professionals, their respective governing organisations and those with lived experience, both directly and through support and advocacy groups, to understand the broad range of views and experiences surrounding the delivery of gender identity services.

What we have heard from service users, their families and support and advocacy groups

Issues for children and young people

4.2. What we understand most clearly from all we have heard is that at the centre of a difficult and complex debate are children, young people and families in great distress. We have heard concerns about children and young people facing the stress of being on a prolonged waiting list with limited support available from statutory services, lack of certainty about when and if they might reach the top of that list and subsequent impacts on mental health. Also, the particular issues that have followed the *Bell v Tavistock* litigation.

4.3. We have heard about the anxiety that birth-registered males face as they come closer to the point where they will grow facial hair and their voice drops, and the fear that it will make it harder for them to pass as a transgender woman in later life. We have also heard about the distress

experienced by birth-registered females as they reach puberty, including the use of painful, and potentially harmful, binding processes to conceal their breasts.

4.4. When children and young people are able to access the service, there is often a sense of frustration with what several describe as the “gatekeeping” medical model and a “clinician lottery”. This can feel like a series of barriers and hurdles designed to add to, rather than alleviate, distress. Most children and young people seeking help do not see themselves as having a medical condition; yet to achieve their desired intervention they need to engage with clinical services and receive a medical diagnosis of gender dysphoria. By the time they are seen in the GIDS clinic, they may feel very certain of their gender identity and be anxious to start hormone treatment as quickly as possible. However, they can then face a period of what can seem like intrusive, repetitive and unnecessary questioning. Some feel that this undermines their autonomy and right to self-determination.

4.5. We have heard that some young people learn through peers and social media what they should and should not say to therapy staff in order to access hormone treatment; for example, that they are advised not to admit to previous abuse or trauma, or uncertainty about their sexual orientation. We have also heard that many of those seeking NHS support identify as non-binary, gender non-conforming, or gender fluid. We understand that some

young people who identify as non-binary feel their needs are not met by clinical services unless they give a binary narrative about their gender preferences.

Issues for parents

4.6. We have also heard about the distress parents may feel as they try to work out how best to support their children and how tensions and conflict may arise where parents and their children have different views. For example, some parents have highlighted the importance of ensuring that children and young people are able to keep their options fluid until such time as it becomes essential to commit to a hormonal course of action, whilst their children may want more rapid hormone intervention.

4.7. We have heard about families trying to balance the risks of obtaining unregulated and potentially dangerous hormone supplies over the internet or from private providers versus the ongoing trauma of prolonged waits for assessment.

4.8. Parents have also raised concerns about the vulnerability of neurodiverse children and young people and expressed that the communication needs of these children and young people are not adequately reflected during assessment processes or treatment planning.

4.9. GIDS has always required consent/assent from both the child and parents/carers and has sought ways to resolve family conflict, which in the worst-case scenario can lead to family breakdown. It has been highlighted to us that the future

service model should provide more targeted support for parents and carers.

Service issues

4.10. Another significant issue raised with us is one of diagnostic overshadowing – many of the children and young people presenting have complex needs, but once they are identified as having gender-related distress, other important healthcare issues that would normally be managed by local services can sometimes be subsumed by the label of gender dysphoria. This issue is compounded by the waiting list, which means that there can be a significant period of time without appropriate assessment, treatment or care.

4.11. Stakeholders have spoken of the need for appropriate assessment when first accessing NHS services to aid both the exploration of the child or young person's wellbeing and gender distress and any other challenges they may be facing.

Information

4.12. We have also heard about the lack of access to accurate, balanced information upon which children, young people and their families/carers can inform their decisions.

4.13. We have heard that distress may be exacerbated by pressure to identify with societal stereotyping and concerns over the influence of social media, which can be seen to perpetuate unrealistic images of gender and set unhealthy expectations, especially given how long

children and young people are waiting to access services.

Other issues

4.14. Several issues that were raised with us are not explored further in this interim report, but we have taken note of them. These will be considered further during the lifetime of the Review and include:

- The important role of schools and the challenges they face in responding appropriately to gender-questioning children and young people.
- The complex interaction between sexuality and gender identity, and societal responses to both; for example, we have heard from young lesbians who felt pressured to identify as transgender male, and conversely transgender males who felt pressured to come out as lesbian rather than transgender. We have also heard from adults who identified as transgender through childhood, and then reverted to their birth-registered gender in teen years.
- The issues faced by detransitioners highlight the need for better services and pathways for this group, many of whom are living with irreversible effects of transition but for whom there is no clear access to services as they fall outside the responsibility of NHS gender identity services.
- The age at which adult gender identity clinics can receive referrals, with concerns about the inclusion of 17-year-olds. The service offer in adult services

is perceived to be quite different from that of GIDS, and young people presenting later may therefore not be afforded the same level of therapeutic input under the adult service model. There is also concern about the impact on the young person of changing clinicians at a crucial point in their care. The movement of young people with special educational needs between children's and adult services raises particular concerns.

What we have heard from healthcare professionals

Lack of professional consensus

4.15. Clinicians and associated professionals we have spoken to have highlighted the lack of an agreed consensus on the different possible implications of gender-related distress – whether it may be an indication that the child or young person is likely to grow up to be a transgender adult and would benefit from physical intervention, or whether it may be a manifestation of other causes of distress. Following directly from this is a spectrum of opinion about the correct clinical approach, ranging broadly between those who take a more gender-affirmative approach to those who take a more cautious, developmentally-informed approach.

4.16. Speaking to current and ex-GIDS staff, we have heard about the pressure on GIDS clinicians, many of whom feel overwhelmed by the numbers of children and young people being referred and who are demoralised by the media coverage of their service. Although the clinical team attempt to manage risk on the waiting list by engaging with local services, there is limited capacity and/or capability to respond appropriately to the needs of this group in primary and secondary care. The Review has already referred to this issue as the most pressing priority in its letter to NHS England (**Appendix 2**), alongside potential risks relating to safeguarding and/or mental health issues, and diagnostic overshadowing.

4.17. With respect to GIDS, we have been told that although there are forums for staff to discuss difficult cases with senior colleagues, it is still difficult for staff to raise concerns about the clinical approach. Also that many individuals who are more cautious and advocate the need for an exploratory approach have left the service.

Consistency and standards

4.18. GIDS staff have confirmed that judgements are very individual, with some clinicians taking a more gender-affirmative approach and others emphasising the need for caution and for careful exploration of broader issues. The Review has been told that there is considerable variation in the approach taken between the London, Leeds and Bristol teams.

4.19. Speaking to professionals outside GIDS, we have heard widespread concern about the lack of guidance and evidence on how to manage this group of young people.

4.20. Some secondary care providers told us that their training and professional standards dictate that when working with a child or young person they should be taking a mental health approach to formulating a differential diagnosis of the child or young person's problems. However, they are afraid of the consequences of doing so in relation to gender distress because of the pressure to take a purely affirmative approach. Some clinicians feel that they are not supported by their professional body on this matter. Hence the practice of passing referrals straight through to GIDS is not just a reflection of local service capacity problems, but also of professionals' practical concerns about the appropriate clinical management of this group of children and young people.

4.21. GPs have expressed concern about being pressurised to prescribe puberty blockers or feminising/masculinising hormones after these have been initiated by private providers.

4.22. This also links to professional concerns about parents being anxious for hormone treatment to be initiated when the child or young person does not seem ready.

Other issues

4.23. We have also heard that parents and carers play a huge role and are instrumental in helping young people

to keep open their developmental opportunities. In discussion with social workers, we heard concerns about how looked after children are supported in getting the help and support they need.

4.24. Therapists who work with detransitioners and people with regret have highlighted a lack of services and pathways and a need for services to support this population. There is also the need for more research to understand what factors contribute to the decision to detransition.

4.25. The importance of broad holistic interventions to help reduce distress has been emphasised to the Review, with therapists and other clinicians advocating the importance of careful developmentally informed assessment and of showing children and young people a range of different narratives, experiences and outcomes.

4.26. Clinicians have raised concerns about children and young people's NHS numbers being changed inconsistently, as there is no specific guidance for GPs and others as to when this should be done for this population and under what consent. This has implications for safeguarding and clinical management of these children and young people and it also makes it difficult to do research exploring long-term outcomes.

4.27. As with the comments made by service users, their families and support and advocacy groups, we have heard similar views from professionals about the

transition from children's to adult services, and the role of schools.

Structured engagement with primary, secondary and specialist clinicians

4.28. The Review's letter to NHS England (**Appendix 2**) set out some of the immediate issues with the current provision of gender identity services for children and young people and suggested how its work might help with the challenging problem of establishing an infrastructure outside GIDS. This included looking at the capacity, capability and confidence of the wider workforce and how this could be built and sustained, and the establishment of potential assessment frameworks for use in primary and/or secondary care.

Professional panel – primary and secondary care

4.29. In order to understand the challenges and establish a picture of current competency, capacity and confidence among the workforce outside the specialist gender development service, an online professional panel was established to explore issues around gender identity services for children and young people. The role of the panel was aimed at better comprehending how it looks and feels for clinicians and other professionals working with these young people, as well as any broader thoughts about the work, and to start exploring how the care of these

children and young people can be better managed in the future.

4.30. The project was designed to capture a broad mix of professional views and experiences, recruiting from the professional groups that are most likely to have a role in the care pathway – GPs, paediatricians, child psychiatrists, child psychologists and child psychotherapists, nurses and social workers.

4.31. A total of 102 clinicians and other professionals were involved in the panel. The panel represented a balanced professional mix, and participant ages and gender were broadly representative of the overall sector workforce. Participants were self-selecting and were recruited via healthcare professional networks and Royal Colleges.

4.32. Each week the panel was set an independent activity comprised of two or more tasks. Additionally, a sub-set of the panel was invited to participate in focus groups at the midway and endpoint of the project. Activities were designed to capture an understanding of:

- experiences of working with gender-questioning children and young people and panel members' confidence and competence to manage their care;
- changes they may have experienced in the presentation of children and young people with gender-related distress;
- areas where professionals feel they require more information in order to

support gender-questioning children and young people;

- where professionals currently go to find that information;
- the role of different professions in the care pathway;
- the role of professionals in the assessment framework; and
- what participants felt should be included in an assessment framework across the whole service pathway.

Gender specialist questionnaire

4.33. Having concluded the professional panel exercise, we wanted to triangulate what we had heard with the thoughts and views of professionals working predominantly or exclusively with gender-questioning children and young people.

4.34. To do this in a systematic way, we conducted an online survey which contained some service-specific questions, but also reflected and sought to test some of what we had heard from primary and secondary care professionals.

Findings

4.35. This structured engagement has yielded valuable insights from clinicians and professionals with experience working with gender-questioning children and young people both within and outside the specialist gender service. It has contributed to the thinking of the Review and informed some of the interim advice set out in this report.

4.36. There are a number of consistent messages arising from these activities:

- The current long waiting lists that gender-questioning children and young people and their families/carers face are unacceptable for all parties involved, including professionals.
- Many professionals in our sample said that not only are gender-questioning children and young people having to wait a long time before receiving treatment, but they also do not receive appropriate support during this waiting period.
- Another impact of the long wait that clinicians reported is that when a child or young person is seen at GIDS, they may have a more fixed view of what they need and are looking for action to be taken quickly. This reportedly can lead to frustration with the assessment process.
- When considering the more holistic support that children and young people may need, gender specialists further highlighted the difficulties that children and young people face accessing local support, for example, from CAMHS, whilst being seen at GIDS.
- It is clear from the professionals who took part in these activities that there is a strong professional commitment to provide quality care to gender-questioning children and young people and their families/carers. However, this research indicates that levels of confidence and competence do vary

among primary and secondary care professionals in our sample.

- Concerns were expressed by professionals who took part in this research about the lack of consensus among the clinical community on the right clinical approach to take when working with a gender-questioning child or young person and their families/carers.
- In order to support clinicians and professionals more widely, participants felt there is a need for a robust evidence base, consistent legal framework and clinical guidelines, a stronger assessment process and different pathway options that holistically meet the needs of each gender-questioning child or young person and their families/carers.

4.37. There are also several areas where further discussion and consensus is needed:

- There is not a consistent view among the professionals participating in the panel and questionnaire about the nature of gender dysphoria and therefore the role of assessment for children and young people experiencing gender dysphoria.

- Some clinicians felt that assessment should be focused on whether medical interventions are an appropriate course of action for the individual. Other clinicians believe that assessment should seek to make a differential diagnosis, ruling out other potential causes of the child or young person's distress.
- There are different perspectives on the roles of primary, secondary and specialist services in the care pathway(s) and what support or action might best be provided at different levels.
- While there was general consensus that diagnostic or psychological formulation needs to form part of the assessment process, there were differing views as to whether a mental state assessment is needed, and should it be, where in the pathway and by whom this should be done.

4.38. It is important to note that the information gathered represents the views and insights of the panel participants and survey respondents at a moment in time and findings should be read in the context of a developing narrative on the subject, where perspectives may evolve. This relates to both the experiences of professionals, but also the extent to which this subject matter is discussed in the public sphere.

4.39. The Review is grateful to all the participants for their time and high level of engagement. The Review will build on the work we have undertaken and, alongside our academic research, will continue with a programme of engagement with professionals, service users and their families, which will help to further develop the evidence base.

The full reports from the professional panel and gender specialist questionnaire are on the Review's website (<https://cass.independent-review.uk/>).

5. Principles of evidence based service development



Evidence based service development

5.1. This chapter integrates the information regarding the development of the current service (see Chapter 3) with the views we have heard to date (see Chapter 4) and sets this in the context of how evidence is routinely used to develop and improve services in the NHS.

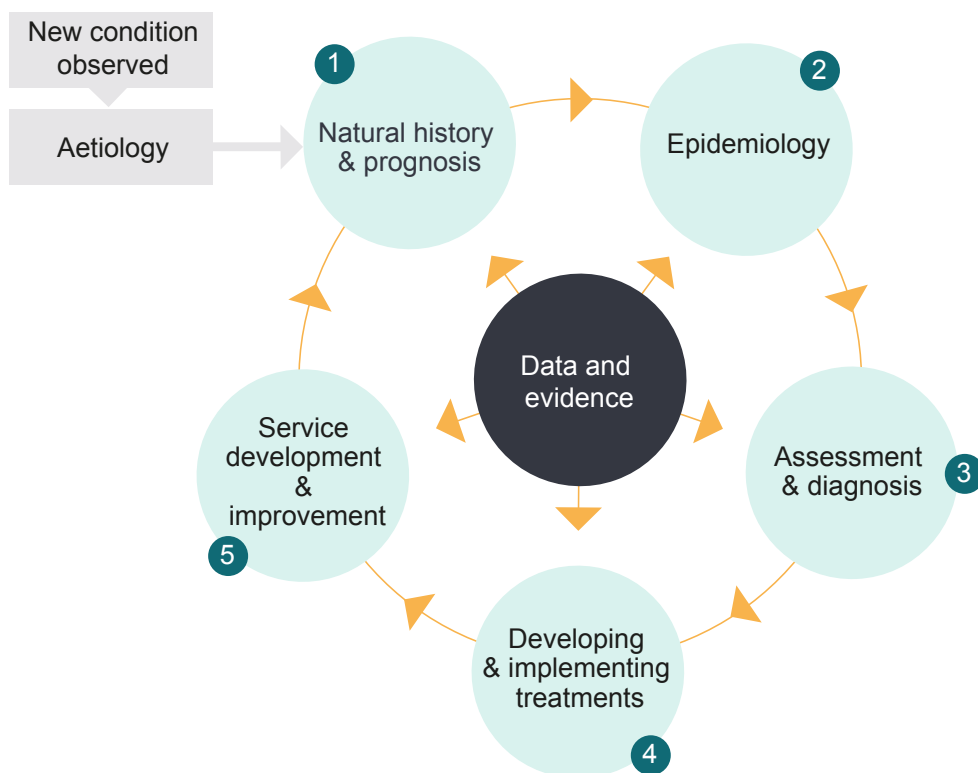
5.2. Some earlier information is necessarily repeated here, but this is with the intention of providing a more accessible explanation of the standards and processes which govern clinical service development. This is essential to an understanding of the rationale for the Review's recommendations.

5.3. Because the specialist service has evolved rapidly and organically in response to demand, the clinical approach and overall service design has not been subjected to some of the normal quality controls that are typically applied when new or innovative treatments are introduced. This Review now affords everyone concerned the opportunity to step back and consider from first principles what this cohort of children and young people now need from NHS services, based on the evidence that exists, or additional evidence that the Review hopes to collect.

5.4. In **Appendix 4** we have described the service development process for three different conditions which may help to illustrate what would be expected to happen at each different stage of developing a clinical service. The steps may proceed in a different sequence for different conditions, but each step is important in the development of evidence based care.

5.5. We recognise that for some of those reading this report it may feel wrong to compare gender incongruence or dysphoria to clinical conditions, and indeed this approach would not be justified if individuals presenting with these conditions did not require clinician intervention. However, where a clinical intervention is given, the same ethical, professional and scientific standards have to be applied as to any other clinical condition.

Key stages of service development



New condition observed: This often begins with a few case reports and then clinicians begin to recognise a recurring pattern and key clinical features, and to develop fuller descriptions of the condition.

Aetiology: Clinicians and scientists try to work out the cause of the condition or the underlying physical or biological basis. Sometimes the answers to this are never found.

Natural history and prognosis: It is important to understand how a condition usually evolves over time, with or without treatment. The latter is important if treatment has limited efficacy and the condition is 'self-limiting' (that is, it resolves without treatment), because otherwise there is a risk that treatments create more difficulties than the condition itself.

5.6. The first UK service for gender-questioning children and young people was established in 1989. At that time there were very few children and young people being

seen by medical services internationally. The most common presentation in the early years of the service was of birth-registered

boys who had demonstrated gender incongruence from an early age.^{51,52,53}

5.7. There is extensive literature discussing the possible aetiology of gender incongruence. Based on the available evidence, many authors would suggest that it is likely that biological, cultural, social and psychological factors all contribute. The examples in **Appendix 4** show that this is not an uncommon situation; many conditions do not have a single clear causation – they are in other words ‘multifactorial’.

5.8. Regardless of aetiology, the more contentious and important question is how fixed or fluid gender incongruence is at different ages and stages of development, and whether, regardless of aetiology, can be an inherent characteristic of the individual concerned. There is a spectrum of academic, clinical and societal opinion on this. At one end are those who believe that gender identity can fluctuate over time and be highly mutable and that, because gender incongruence or gender-related distress may be a response to many psychosocial factors, identity may

sometimes change or the distress may resolve in later adolescence or early adulthood, even in those whose early incongruence or distress was quite marked. At the other end are those who believe that gender incongruence or dysphoria in childhood or adolescence is generally a clear indicator of that child or young person being transgender and question the methodology of some of the desistance studies. Previous literature has indicated that if gender incongruence continues into puberty, desistance is unlikely.^{54,55} However, it should be noted that these older studies were not based on the current changed case-mix or the different socio-cultural climate of recent years, which may have led to different outcomes. Having an open discussion about these questions is essential if a shared understanding of how to provide appropriate assessment and treatment is to be reached.

⁵¹ Zucker KJ (2017). [Epidemiology of gender dysphoria and transgender identity](#). Sex Health 14(5): 404–11. DOI:10.1071/SH1.

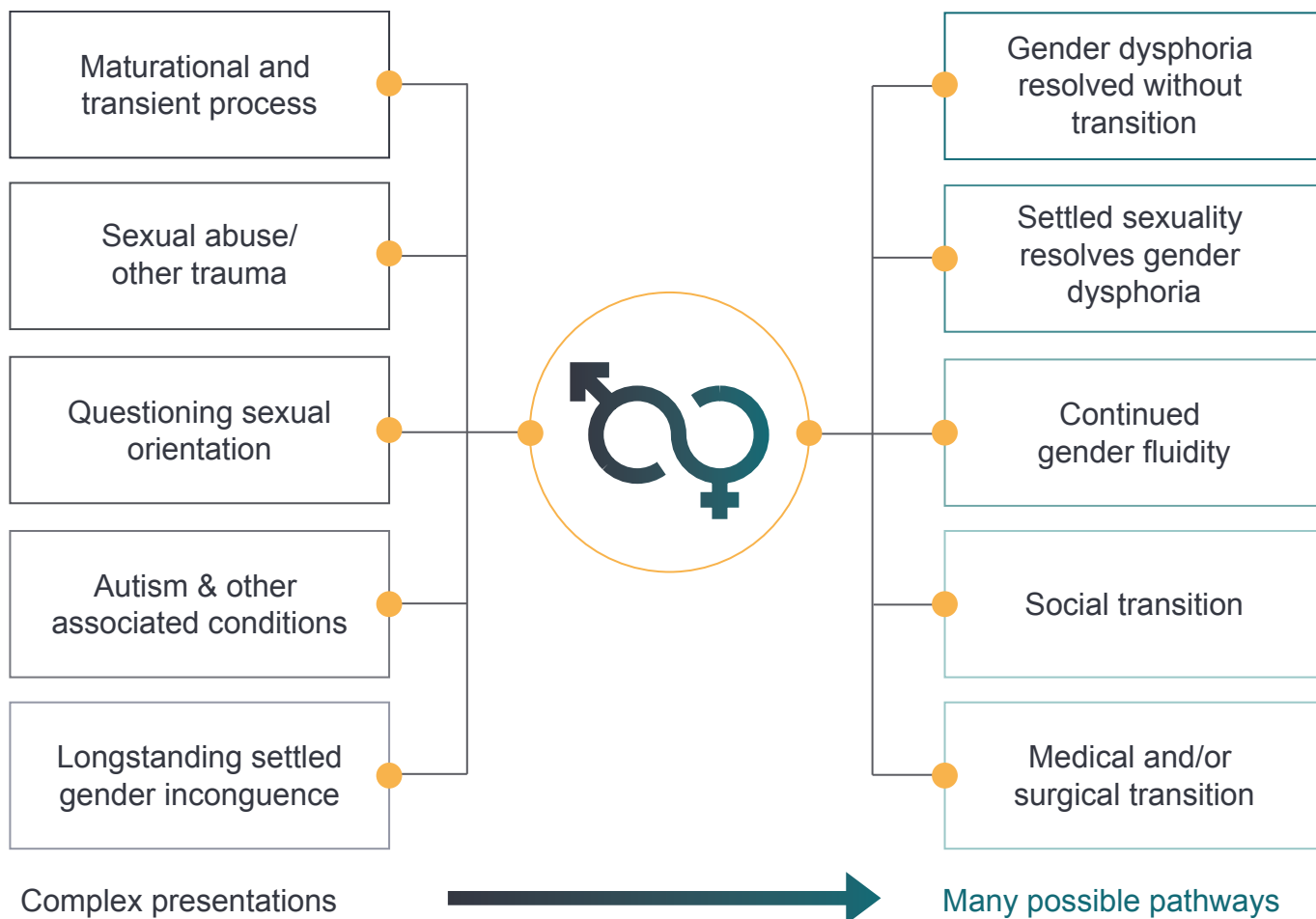
⁵² Zucker KJ, Lawrence AA (2009). [Epidemiology of gender identity disorder: recommendations for the Standards of Care of the World Professional Association for Transgender Health](#). Int J Transgend 11(1): 8-18. DOI: 10.1080/15532730902799946.

⁵³ de Graaf NM, Giovanardi G, Zitz C, Carmichael P (2018). [Sex ratio in children and adolescents referred to the gender identity development service in the UK \(2009-2016\)](#). Arch Sex Behav 47(5): 1301–4.

⁵⁴ Steensma TD, Biemond R, de Boer F, Cohen-Kettenis PT (2011). [Desisting and persisting gender dysphoria after childhood: a qualitative follow-up study](#). Clin Child Psychol Psychiatry 16(4): 485-97. DOI: 10.1177/135910451037803.

⁵⁵ Steensma TD, McGuire JK, Kreukels BPC, Beekman AJ, Cohen-Kettenis PT (2013). [Factors associated with desistance and persistence of childhood gender dysphoria: a quantitative follow-up study](#). J Am Acad Child Adolesc Psychiatry 52: 582-590. DOI: 10.1016/j.jaac.2013.03.016.

Complex presentations and complex pathways – exemplars, not comprehensive lists



Epidemiology: Epidemiologists collect data to find out how common a condition is, who is most likely to be affected, what the age distribution is and so on. This allows health service planners to work out how many services are needed, where they should be established, and what staff are needed.

They also report on changes in who is most affected, which may mean that either the disease is changing, or the susceptibility of the population is changing.

5.9. As previously indicated, the epidemiology of gender dysphoria is changing, with an increase in the numbers of birth-registered females presenting in early teens.^{56,57} In addition, the majority of children and young people presenting to GIDS have other complex mental health issues and/or neurodiversity.⁵⁸ There is also an over-representation of looked after children.⁵⁹

5.10. There are several implications arising from the change in epidemiology:

- Firstly, the speed of change in the numbers presenting means that services have not kept pace with demand.
- Secondly, the cohort that the original Dutch Approach was based on is different from the current more complex NHS cohort, and also from the current case-mix internationally, and therefore it is difficult to extrapolate from older literature to this current group.
- Thirdly, different subgroups may have quite different needs and outcomes, and these must be built into any service design, so that it works for all children and young people.

5.11. At present we have the least information for the largest group of patients – birth-registered females first presenting in early teen years. Since the rapid increase in this group began around 2015, they will not reach late 20s for another 5+ years, which would be the best time to assess longer-term wellbeing.

⁵⁶ Steensma TD, Cohen-Kettenis PT, Zucker KJ (2018). [Evidence for a change in the sex ratio of children referred for gender dysphoria: Data from the Center of Expertise on Gender Dysphoria in Amsterdam \(1988-2016\)](#). Journal of Sex & Marital Therapy 44(7): 713–5. DOI: 10.1080/0092623X.2018.1437580.

⁵⁷ de Graaf NM, Carmichael P, Steensma TD, Zucker KJ (2018). [Evidence for a change in the sex ratio of children referred for Gender Dysphoria: Data from the Gender Identity Development Service in London \(2000–2017\)](#). J Sex Med 15(10): 1381–3. DOI: 10.1016/j.jsxm.2018.08.002.

⁵⁸ Van Der Miesen AIR, Hurley H, De Vries ALC (2016). [Gender dysphoria and autism spectrum disorder: A narrative review](#). Int Rev Psychiatry 28: 70-80. DOI: 10.3109/09540261.2015.1111199.

⁵⁹ Matthews T, Holt V, Sahin S, Taylor A, Griksaitis (2019). [Gender Dysphoria in looked-after and adopted young people in a gender identity development service](#). Clinical Child Psychol Psychiatry 24: 112-128. DOI: 10.1177/1359104518791657.

Assessment and diagnosis: Clinicians will usually take a history from (that is, of their symptoms) and examine the patient (that is, for signs and symptoms), and where appropriate undertake a series of investigations or tests, to help them reach an accurate diagnosis.

Sometimes the whole process of making a diagnosis through talking to the patient and asking them to complete formal questionnaires, examining them and/or undertaking investigations is called 'clinical assessment'.

As well as diagnosing and ruling out a particular condition, clinicians often need to consider and exclude other, sometimes more serious, conditions that present in a similar way but may need quite different treatment – this process is called 'differential diagnosis'.

5.12. For children and young people with gender-related distress, many people would dispute the notion that 'making a diagnosis' is a meaningful concept, arguing that gender identity is a personal, internal perception of oneself. However, there are several reasons to why a diagnostic framework is used:

- Firstly, the clinician will seek to determine whether the child or young person has a stable transgender identity, or whether there might be other causes for the gender-related distress.
- Secondly, the clinician will determine whether there are other issues or diagnoses that might be having an impact on the young person's mental health. The Dutch Approach suggesting that these should be addressed prior to or alongside initiation of any medical treatments.
- Thirdly, in any situation where life-altering treatments are being administered, the clinician holds the

responsibility for ensuring that they are being administered based on an appropriate decision making process. Therefore, it is usual practice for a diagnosis of gender dysphoria to be made prior to referring for any physical treatments.

5.13. When the word 'diagnosis' is used, people often associate this with the use of blood tests, X-rays, or other laboratory tests. As set out in the **Appendix 4**, the public is very familiar with diagnosis of Covid-19 and understands that there need to be tests that give a high degree of certainty about whether an individual is Covid-19 positive or not. False positive lateral flow tests are rare, but caused problems for schools, while PCR has been treated as the 'gold standard' test for accuracy.

5.14. When it comes to gender dysphoria, there are no blood tests or other laboratory tests, so assessment and diagnosis in children and young people with gender-related distress is reliant on the judgements of experienced clinicians. Because medical, and subsequently possibly surgical treatments will follow, it may be argued that a highly sensitive and specific assessment process is required. The assessment should be able to accurately identify those children or young people for whom physical intervention is going to be the best course of action, but it is equally important that it identifies those who need an alternative pathway or treatment.

5.15. The formal criteria for diagnosing gender dysphoria (DSM-5) are listed in **Appendix 3**. However, there are two problems associated with the use of these criteria:

- Firstly, several of the criteria are based on gender stereotyping which may not be deemed relevant in current society, although the core criteria remain valid.
- Secondly, and more importantly, these criteria give a basis on which to make a diagnosis that a young person is clinically distressed by the incongruence between their birth-registered and their experienced gender, but they do not help in determining which factors may have led to this distress and how they might best be resolved.

5.16. At present, the assessment process varies considerably, dependent on the perceptions, experience and beliefs of different clinicians. There are some existing measurement tools, but it is suggested that these have substantial limitations.⁶⁰

5.17. The challenges are similar to the early difficulties in diagnosing autism, as set out in **Appendix 4**. As with autism, the framework for assessment needs to become formalised so there are clearer criteria for diagnosis and treatment pathways which are shared more widely. These should incorporate not just whether the child or young person meets DSM-5 criteria for gender dysphoria, but how a broader psychosocial assessment should be conducted and evaluated, and what other factors need to be considered to gain a holistic understanding of the child or young person's experience. Professional judgement and experience will still be important, but if the frameworks and criteria for assessment and diagnosis were more consistent and reproducible, there would be a greater likelihood that two different people seeing the same child or young person would come to the same conclusion. This would also mean that any research on interventions or long-term outcomes would be more reliable because the criteria on which a diagnosis was made, and hence the patients within the sample, would have the same characteristics.

⁶⁰ Bloom TM, Nguyen TP, Lami F, Pace CC, Poulakis Z, Telfer N (2021). [Measurement tools for gender identity, gender expression, and gender dysphoria in transgender and gender-diverse children and adolescents: a systematic review](#). Lancet Child Adolescent Health. 5: 582-588. DOI: 10.1016/s2352-4642(21)00098-5.

5.18. As outlined above, it is standard clinical practice to undertake a process called differential diagnosis. This involves summarising the main points of the clinical assessment, the most likely diagnosis, other possible diagnoses and the reasons for including or excluding them, as well as any further assessments that may be required to clarify the diagnosis and the treatment options and plan. This is important when a medical intervention is being provided on the basis of the assessment, so the process

is robust, explicit and reproducible. These considerations need to be applied to the assessment of children and young people presenting with gender-related distress. In mental health services, practitioners may also undertake a diagnostic or psychological formulation, which is a holistic summary of how the patient is feeling and why, and how to make sense of it, and a plan for moving forward with management or treatment.

Developing and implementing new treatments: Clinicians and scientists work on developing treatments. This involves clinical trials and, where there are new treatments, comparing them to any existing treatments. Questions include: What are the intended outcomes or benefits of treatment? What are the complications or side effects? What are the costs? To initiate a new treatment, it must be both safe and effective. Questions of affordability can sometimes become controversial.

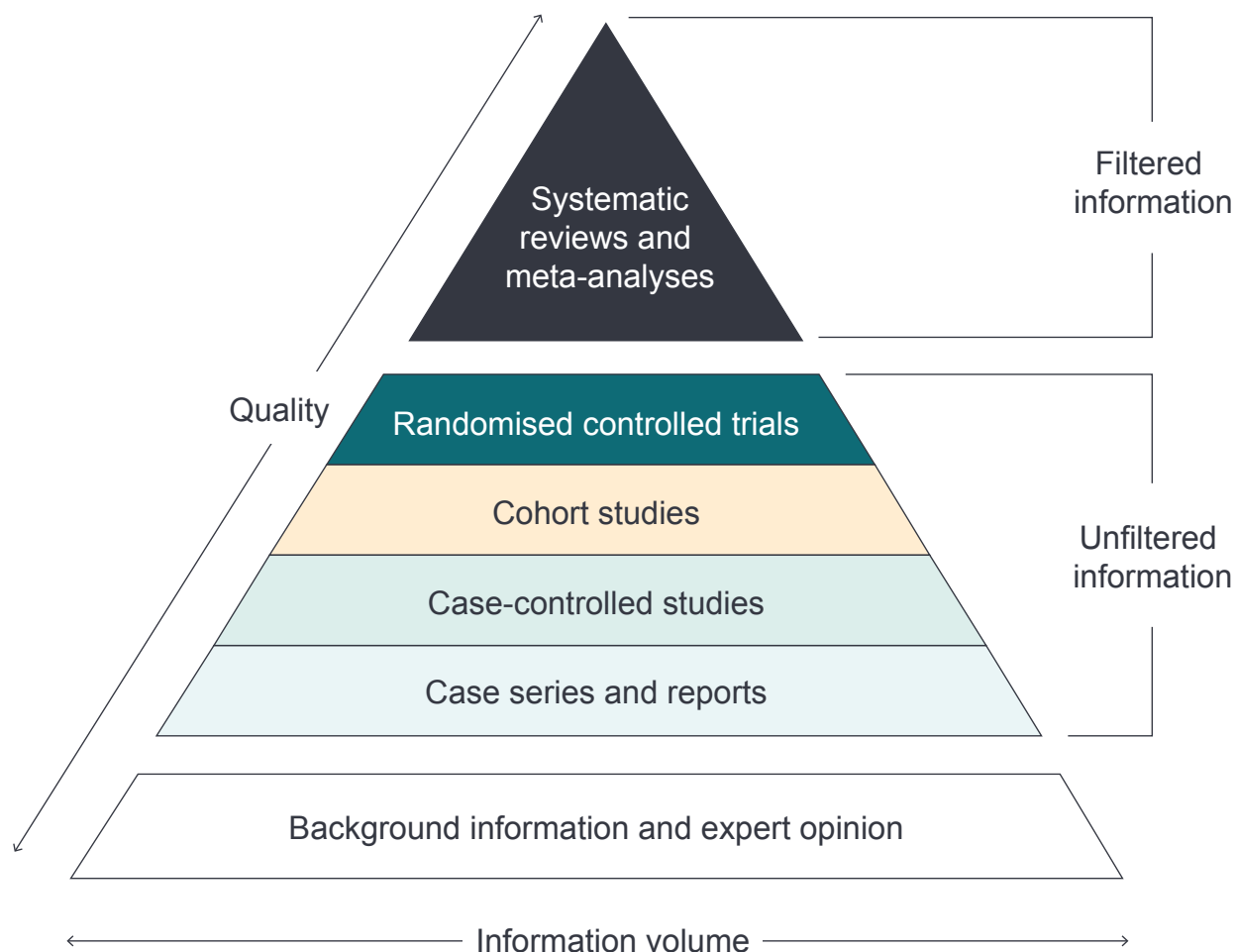
The best type of single study is considered to be the randomised controlled trial (RCT), but sometimes this is not feasible. Even where RCTs are not available, it is usual to at least have data on the outcomes of sufficient cases or cohorts to understand the risk/benefit of the treatment under consideration. As demonstrated in Fig. 4, the highest level of evidence is when the results of several different studies are pooled, but this is only useful if the individual studies themselves are of high quality.

In many instances, evidence is not perfect and difficult decisions have to be made. Where treatments are innovative or life-changing, the whole multi-disciplinary team will usually meet to consider the available options, and how to advise the child or young person and family so that a shared decision can be made. Sometimes an ethics committee is involved. This is one of the most challenging areas of medicine and is underpinned by GMC guidance.^{61,62}

⁶¹ General Medical Council (2020). [Decision making and consent](#).

⁶² National Institute for Health and Care Excellence (2021). [Shared decision making](#).

Figure 3: Pyramid of standards of evidence



Source: Levels of evidence pyramid, OpenMD. Reproduced with permission⁶³

5.19. There are three types of intervention or treatment for children and young people with gender-related distress, which may be introduced individually or in combination with one another:

- **Social transition** – this may not be thought of as an intervention or treatment, because it is not something

that happens within health services. However, it is important to view it as an active intervention because it may have significant effects on the child or young person in terms of their psychological functioning.^{64,65} There are different views on the benefits versus the harms of early social transition. Whatever position one

⁶³ OpenMD (2021). [New Evidence in Medical Research](#).

⁶⁴ Sievert EDC, Schweizer K, Barkmann C, Fahrenkrug S, Becker-Hebly I (2020). [Not social transition status, but peer relations and family functioning predict psychological functioning in a German clinical sample of children with Gender Dysphoria](#). Clin Child Psychol Psychiatry 26(1): 79–95. DOI: 10.1177/1359104520964530

⁶⁵ Ehrensaft D, Giammattei SV, Storck K, Tishelman AC, Colton K-M (2018). [Prepubertal social gender transitions: What we know; what we can learn—A view from a gender affirmative lens](#). Int J Transgend 19(2): 251–68. DOI: 10.1080/15532739.2017.1414649.

takes, it is important to acknowledge that it is not a neutral act, and better information is needed about outcomes.

- **Counselling, social or psychological interventions** – these may be offered before, instead of, or alongside physical interventions. Again, they should be viewed as active interventions which require robust evaluation in their own right.
- **Physical treatments** – these comprise puberty blockers and feminising/masculinising hormones (administered by endocrinologists) and surgery. The latter is not considered as part of this Review since it is not available to those under age 18.

5.20. It should also be recognised that ‘doing nothing’ cannot be considered a neutral act.

5.21. The lack of available high-level evidence was reflected in the recent NICE review into the use of puberty blockers and feminising/masculinising hormones commissioned by NHS England, with the evidence being too inconclusive to form the basis of a policy position.^{66,67} Assessing treatments for gender dysphoria has many of the same problems as assessing treatment for children with autism – it can take many years to get a full appreciation of outcomes and there may be other complicating factors in the child or young

person’s life during this period. However, this of itself is not an adequate reason for the major gaps in the international literature.

5.22. It is still common that drugs are not specifically licensed for children because the trials have only taken place on adults. This does not preclude their use or make their use inherently unsafe, particularly if they are used very commonly in children. However, where their use is innovative, patients receiving the drug should ideally do so under trial conditions.

5.23. The same considerations apply to ‘off-label’ drugs, where the drug is used for a condition different to the one for which it was licensed. This is the case for puberty blockers, which are licensed for use in precocious puberty, but not for puberty suppression in gender dysphoria. Again, it is important that it is not assumed that outcomes for, and side effects in, children treated for precocious puberty will necessarily be the same in children or young people with gender dysphoria.

5.24. As outlined above, in other areas of practice where complex or potentially life-altering treatment is being considered for a child or young person, it is usual for the case to be discussed by an MDT including all professionals involved in their care. In gender services for children and young people in the Netherlands, as well as a number of other countries, there are full

⁶⁶ National Institute for Health and Care Excellence (2020). [Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria](#)

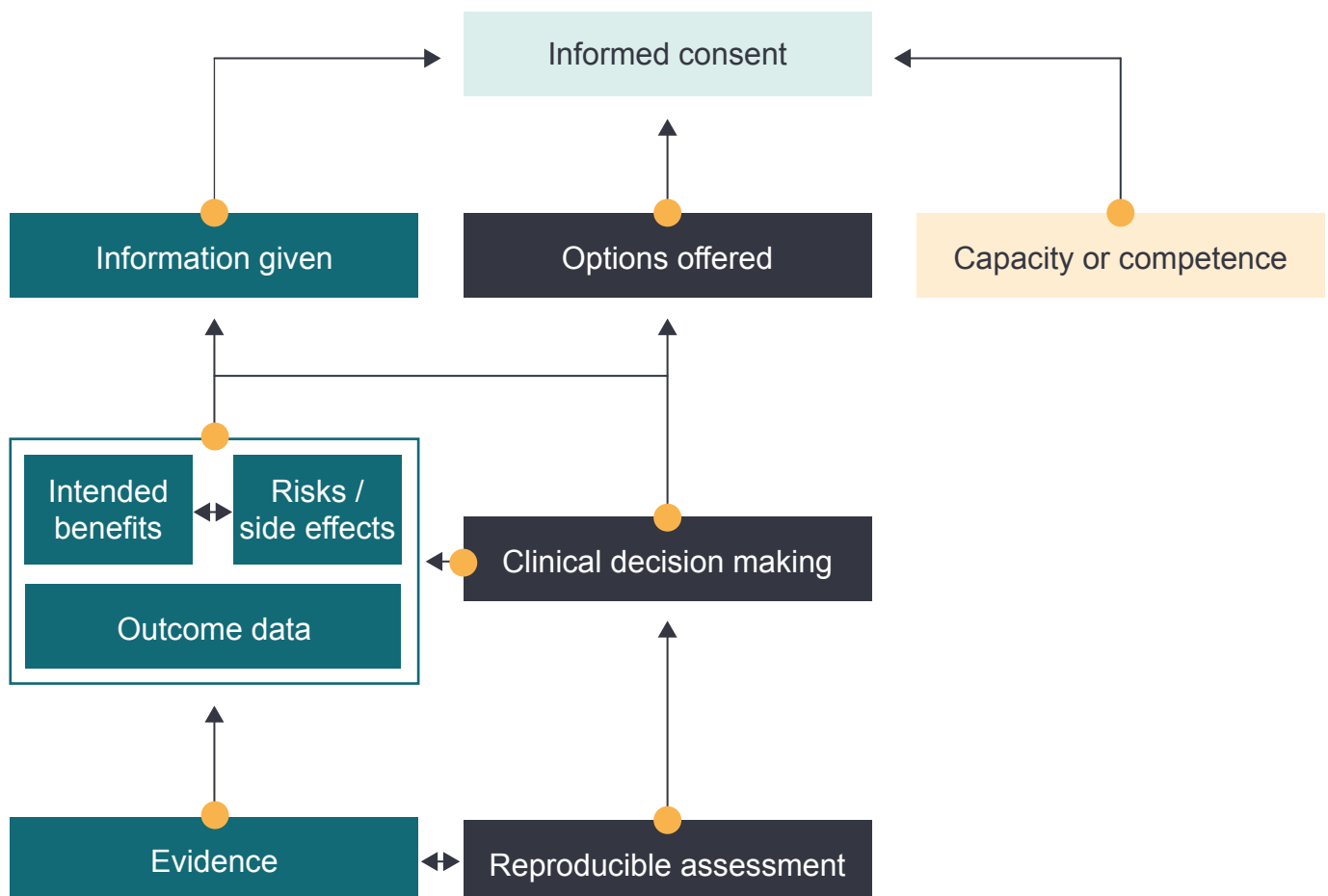
⁶⁷ National Institute for Health and Care Excellence (2020). [Evidence review: gender-affirming hormones for children and adolescents with gender dysphoria.](#)

MDT meetings, including psychiatrists and endocrinologists, to make decisions about suitability for hormone intervention and to review progress.^{68,69}

5.25. Recent legal proceedings have examined the question of the competence and capacity of children and young people to consent to hormone treatment. However, there are some essential components that underpin informed consent; the robustness

of the options offered to the patient, the information provided to them about those options, and their competence and capacity to consider them. The courts have given consideration to competence and capacity, and it is incumbent on this Review to consider the soundness of the decision making which underpins the options offered, and the quality and accuracy of the information provided about those options.

Elements of informed consent



⁶⁸ Kyriakou A, Nicolaides NC, Skordis N (2020). [Current approach to the clinical care of adolescents with gender dysphoria](#). Acta Biomed 91(1): 165–75. DOI: 10.23750/abm.v91i1.9244.

⁶⁹ Cohen-Kettenis PT, Steensma TD, de Vries ALC. [Treatment of adolescents with gender dysphoria in the Netherlands](#). Child Adolesc Psychiatr Clin N Am 20. 689–700. 2001. DOI: 10.1016/j.chc.2011.08.001.

Service development and service improvement: Central to any service improvement is the systematic and consistent collection of data on outcomes of treatment. There is a process of continuous service improvement as new presentations or variations on the original condition are recognised, diagnosis or screening improves and/or trials on new treatments or variations on existing treatments are ongoing.

There should be consistent treatment protocols or guidelines in place, in order to make sense of variations in outcomes. Where possible, these should be compared between and across multiple different centres.

As time passes, services need to be changed or extended based on patient need, and on what resources are needed to deliver the available treatments. They need to be accessible where the prevalence of the condition is highest. The relevant workforce to deliver the service needs to be recruited and trained, contingent on the type of treatments or therapy that is required.

5.26. When a pioneering treatment or specialist service starts, it is often delivered in a single centre. Thereafter, additional centres take on the work as increasing numbers of patients need to access the treatment. Current provision of NHS specialist gender identity services for children and young people has remained concentrated within a single organisation, but demand has grown dramatically.

5.27. The situation has been exacerbated because there are not many local services seeing gender-questioning children at an earlier stage in their journey, which means that GIDS is carrying an unsustainable workload of increasingly complex young people.

5.28. As a condition evolves, rigorous data collection and quantitative research is an essential prerequisite to refining understanding and treatment. Historically, The Tavistock and Portman NHS

Foundation Trust built its international reputation as the home of psychoanalysis, psychotherapy and family therapy, with a strong track record of publishing qualitative rather than quantitative research; consequently its approach to quantitative data collection about this important group of children and young people has been weak.

5.29. A further anomaly is a public perception that The Tavistock and Portman NHS Foundation Trust is the responsible organisation for leading the management of children receiving hormone treatment for their gender dysphoria. In reality, the hormone treatment is delivered by paediatric services in University College London Hospitals NHS Foundation Trust and The Leeds Teaching Hospitals NHS Trust.

5.30. In practice, it is important that for children and young people who need physical intervention, paediatric and mental health services are seen as equal partners, with seamless joint working and shared responsibility. When there were very small numbers of patients, it was easier for this to be achieved, but cross-site working with a very large caseload has made this more difficult to achieve, despite the best intentions of the staff.

5.31. Over the last two years there have been strong efforts on the part of The Tavistock and Portman NHS Foundation Trust to make practice within GIDS more consistent, with tighter procedures for case management, consent, and safeguarding. However, although this has resulted in better documentation, variations and inconsistencies in clinical decision making remain. In responding to a changing legal framework, some processes have become more cumbersome and complex, and the team are working hard to streamline the process.

5.32. Overall, GIDS faces a daunting task as a single provider in managing risk on the waiting list, seeing new referrals, reviewing and supporting those on hormone treatment, undertaking an ongoing transformation programme, recruiting and training new staff and trying to retain existing staff. This suggests that the current model is not sustainable and that another model is needed.

6. Interim advice, research programme and next steps



Dealing with uncertainty

6.1. As outlined throughout this report, there are major gaps in the research base underpinning the clinical management of children and young people with gender incongruence and gender dysphoria, including the appropriate approaches to assessment and treatment.

6.2. As with any other area of medicine, where there are gaps in the evidence base and uncertainties about the correct clinical approach, three tasks must be undertaken:

- Clinical services must be run as safely and effectively as possible, within the constraints of current knowledge; treatment options must be weighed carefully; and treatment decisions must be made in partnership between the clinicians and the children, young people and their families and carers, based on our current understanding about outcomes.
- Consistent data must be collected by clinical services, for both audit and research purposes so that knowledge gaps can be filled, alongside an active research programme.
- Where there is not an immediate prospect of filling research gaps, professional consensus should be developed on the correct way to proceed pending clearer research evidence, supported by input from service users.

6.3. The additional problem with the current service model is that safety and access are further compromised by the pace at which referrals have grown and outstripped capacity at tertiary level, and the lack of service availability at local level.

6.4. The Review's approach to these tasks is as follows:

- Our **interim advice** focuses on the issues of capacity, safety, and standards around treatment decisions, as well as data and audit.
- Our **research streams** will provide the Review with an independent collation of published evidence relevant to epidemiology, clinical management, models of care, and outcomes, as well as delivering qualitative and quantitative research relevant to the Terms of Reference of the Review. This offers a real opportunity to contribute to the international evidence base for this service area.
- There will be an ongoing and wide-ranging **programme of engagement** to address areas on which we will not be able to obtain definitive evidence during the lifetime of the Review.

Interim advice

6.5. The Review considers that there are some areas where there is sufficient clarity about the way forward and we are therefore offering some specific observations and interim advice. The Review will work with NHS England, providers and the broader stakeholder community to progress action in these areas.

Service model

6.6. It has become increasingly clear that a single specialist provider model is not a safe or viable long-term option in view of concerns about lack of peer review and the ability to respond to the increasing demand.

6.7. Additionally, children and young people with gender-related distress have been inadvertently disadvantaged because local services have not felt adequately equipped to see them. It is essential that they can access the same level of psychological and social support as any other child or young person in distress, from their first encounter with the NHS and at every level within the service.

6.8. A fundamentally different service model is needed which is more in line with other paediatric provision, to provide timely and appropriate care for children and young people needing support around their gender identity. This must include support for any other clinical presentations that they may have.

6.9. The Review supports NHS England's plan to establish regional services, and

welcomes the move from a single highly specialist service to regional hubs.

6.10. Expanding the number of providers will have the advantages of:

- creating networks within each area to improve early access and support;
- reducing waiting times for specialist care;
- building capacity and training opportunities within the workforce;
- developing a specialist network to ensure peer review and shared standards of care; and
- providing opportunities to establish a more formalised service improvement strategy.

Service provision

6.11. The primary remit of NHS England's proposed model is for the regional hubs to provide support and advice to referrers and professionals. However, it includes limited provision for direct contact with children and young people and their families.

- 1: The Review advises that the regional centres should be developed, as soon as feasibly possible, to become direct service providers, assessing and treating children and young people who may need specialist care, as part of a wider pathway. The Review team will work with NHS England and stakeholders to further define the proposed model and workforce implications.

2: Each regional centre will need to develop links and work collaboratively with a range of local services within their geography to ensure that appropriate clinical, psychological and social support is made available to children and young people who are in early stages of experiencing gender distress.

3: Clear criteria will be needed for referral to services along the pathway from primary to tertiary care so that gender-questioning children and young people who seek help from the NHS have equitable access to services.

4: Regional training programmes should be run for clinical practitioners at all levels, alongside the online training modules developed by Health Education England (HEE). In the longer-term, clearer mapping of the required workforce, and a series of competency frameworks will need to be developed in collaboration with relevant professional organisations.

Data, audit and research

6.12. A lack of routine and consistent data collection means that it is not possible to accurately track the outcomes and pathways children and young people take

through the service. Standardised data collection is required in order to audit service standards and inform understanding of the epidemiology, assessment and treatment of this group. This, alongside a national network which brings providers together, will help build knowledge and improve outcomes through shared clinical standards and systematic data collection. In the longer-term, formalisation of such a network into a learning health system⁷⁰ with an academic host would mean that there was systematised use of data to produce a continuing research programme with rapid translation into clinical practice and a focus on training.

5: The regional services should have regular co-ordinated national provider meetings and operate to shared standards and operating procedures with a view to establishing a formal learning health system.

6: Existing and future services should have standardised data collection in order to audit standards and inform understanding of the epidemiology, assessment and treatment of this group of children and young people.

⁷⁰ Scobie S, Castle-Clarke S (2019). [Implementing learning health systems in the UK NHS: Policy actions to improve collaboration and transparency and support innovation and better use of analytics](#). Learning Health Systems 4(1): e10209. DOI:10.1002/lrh2.10209.

7: Prospective consent of children and young people should be sought for their data to be used for continuous service development, to track outcomes, and for research purposes. Within this model, children and young people put on hormone treatment should be formally followed up into adult services, ideally as part of an agreed research protocol, to improve outcome data.

8: There needs to be agreement and guidance about the appropriate clinical assessment processes that should take place at primary, secondary and tertiary level.

9: Assessments should be respectful of the experience of the child or young person and be developmentally informed. Clinicians should remain open and explore the patient's experience and the range of support and treatment options that may best address their needs, including any specific needs of neurodiverse children and young people.

Clinical approach

Assessment processes

6.13. We have heard that there are inconsistencies and gaps in the assessment process. Our work to date has also demonstrated that clinical staff have different views about the purpose of assessment and where responsibility lies for different components of the process within the pathway of care. The Review team has commenced discussions with clinical staff across primary, secondary and tertiary care to develop a framework for these processes.

Hormone treatment

6.14. The issues raised by the Multi-Professional Review Group echo several of the problems highlighted by the CQC. It is essential that principles of the General Medical Council's Good Practice in Prescribing and Managing Medicine's and Devices⁷¹ are closely followed, particularly given the gaps in the evidence base regarding hormone treatment. Standards for decision making regarding endocrine treatment should also be consistent with international best practice.^{72,73,74}

⁷¹ General Medical Council (2021). [Good practice in prescribing and managing medicines and devices \(76-78\)](#).

⁷² Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al (2017). [Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society clinical practice guideline](#). J Clin Endocrinol Metab 102(11): 3869–903. DOI: 10.1210/jc.2017-01658.

⁷³ Cohen-Kettenis PT, Steensma TD, de Vries ALC (2001). [Treatment of adolescents with gender dysphoria in the Netherlands](#). Child Adolesc Psychiatr Clin N Am 20: 689–700. DOI: 10.1016/j.chc.2011.08.001.

⁷⁴ Kyriakou A, Nicolaides NC, Skordis N (2020). [Current approach to the clinical care of adolescents with gender dysphoria](#). Acta Biomed 91(1): 165–75. DOI: 10.23750/abm.v91i1.9244.

10: Any child or young person being considered for hormone treatment should have a formal diagnosis and formulation, which addresses the full range of factors affecting their physical, mental, developmental and psychosocial wellbeing. This formulation should then inform what options for support and intervention might be helpful for that child or young person.

11: Currently paediatric endocrinologists have sole responsibility for treatment, but where a life-changing intervention is given there should also be additional medical responsibility for the differential diagnosis leading up to the treatment decision.

6.15. Paediatric endocrinologists develop a wide range of knowledge within their paediatric training, including safeguarding, child mental health, and adolescent development. Being party to the discussions and deliberations that have led up to the decision for medical intervention supports them in carrying out their legal responsibility for consent to treatment and the prescription of hormones.

12: Paediatric endocrinologists should become active partners in the decision making process leading up to referral for hormone treatment by participating in the multidisciplinary team meeting where children being considered for hormone treatment are discussed.

6.16. Given the uncertainties regarding puberty blockers, it is particularly important to demonstrate that consent under this circumstance has been fully informed and to follow GMC guidance⁷⁵ by keeping an accurate record of the exchange of information leading to a decision in order to inform their future care and to help explain and justify the clinician's decisions and actions.

13: Within clinical notes, the stated purpose of puberty blockers as explained to the child or young person and parent should be made clear. There should be clear documentation of what information has been provided to each child or young person on likely outcomes and side effects of all hormone treatment, as well as uncertainties about longer-term outcomes.

⁷⁵ General Medical Council (2020). [Decision making and consent](#).

14: In the immediate term the Multi-Professional Review Group (MPRG) established by NHS England should continue to review cases being referred by GIDS to endocrine services.

Research programme

6.17. The Review's formal academic research programme, comprising a literature review, quantitative analysis and primary qualitative research, has been based on the identified gaps in the evidence and the feasibility of filling them within the lifetime of the Review.

6.18. Initial work has identified the existing evidence base on epidemiology, natural history, and the treatment and outcomes of children and young people with gender dysphoria/gender-related distress. It has also assessed the feasibility of linking data between local, regional or national datasets in order to assess intermediate and longer-term outcomes.

Literature review

6.19. A literature review is being undertaken, which will interface with evidence gathering from the professional community (see qualitative research section below). Its aim is to systematically identify, collate and synthesise the existing evidence on the changing epidemiology of gender-related distress in children and young people and the appropriate social, clinical,

psychological and medical management of that distress.

6.20. The literature review will capture primary studies of any design, including experimental, observational, survey and qualitative, and is looking to answer the following questions:

1. How has the population of children and young people presenting with gender dysphoria and/or gender-related distress changed over time?
2. What are the appropriate referral, assessment and treatment pathways for children and young people with gender dysphoria and/or gender-related distress?
3. What are the short-, medium- and long-term outcomes for children and young people with gender dysphoria and/or gender-related distress?
4. How do children and young people and their families negotiate distress, present this distress to services, and what are their expectations, following presentation?
5. How do children, young people and their families/carers experience referral, assessment and treatment? And how are these negotiated among children and young people, parents/carers, families and healthcare professionals?

6.21. A separate synthesis for each question will be undertaken. The systematic review has been registered on PROSPERO [ID:289659].

Quantitative research

6.22. The National Institute for Health and Care Excellence (NICE) recently published two evidence reviews.^{76,77} These highlight shortcomings in the follow-up data collected about children and young people, when they are referred to a specialist gender identity service. The quantitative research will therefore focus on the collection and analysis of data to uncover patterns and quantify problems, thereby helping the Review to address some of these shortcomings.

6.23. The aim of the quantitative study is to supplement the material collected by the literature review, further examining the changing epidemiology of gender-related distress in children and young people, in addition to exploring the appropriate social, clinical, psychological and medical management. Its objectives are to:

- a) describe the clinical and demographic characteristics of this population of children and young people and their clinical management in the GIDS service; and

- b) assess the intermediate and longer-term outcomes of this population of children and young people utilising national healthcare data.

6.24. This research will provide an evidence base to facilitate informed decision making among children and young people and their families. It will also provide an evidence base for those responsible for commissioning, delivering and managing services.

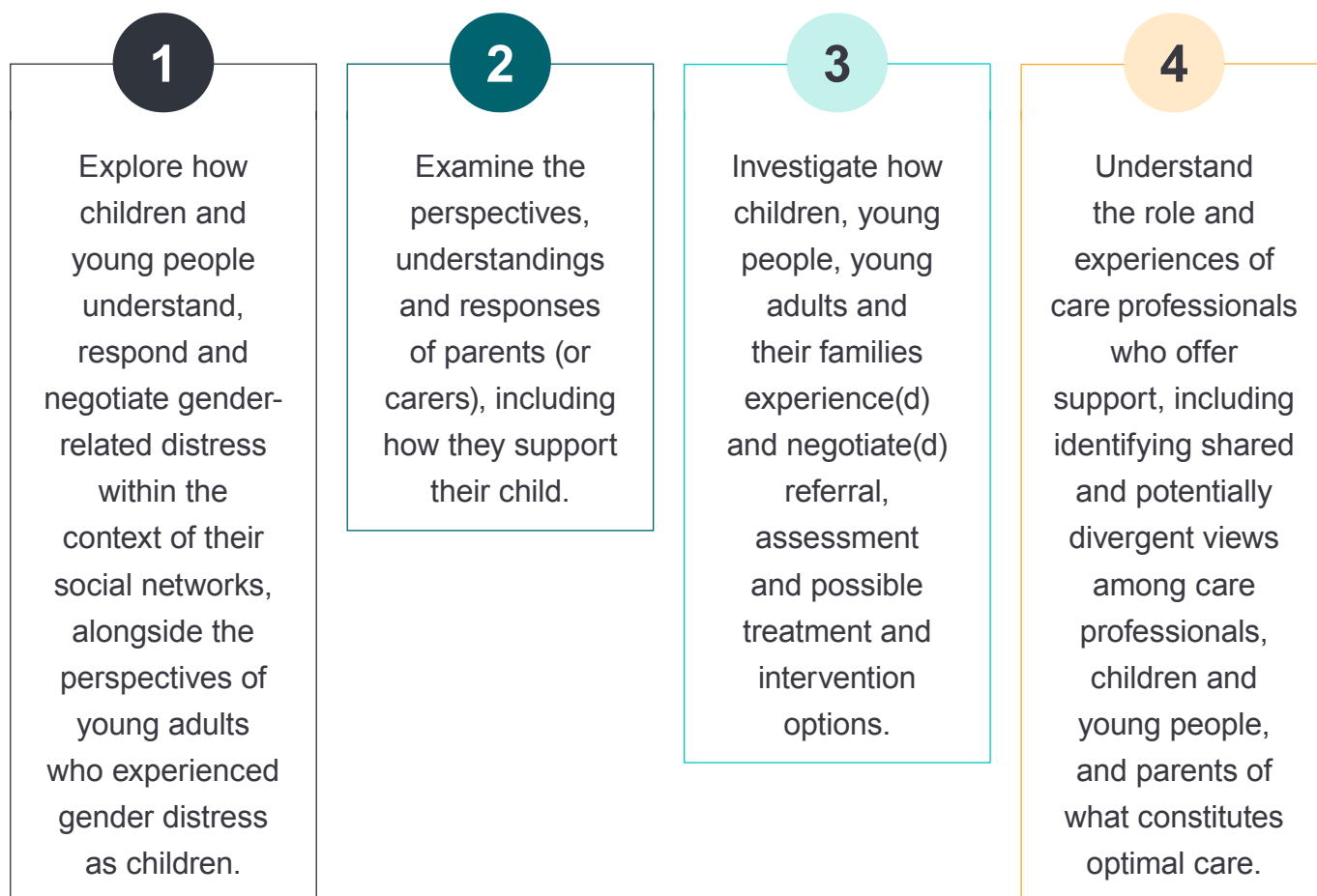
Qualitative research

6.25. The qualitative research will capture a diverse range of trajectories experienced by gender-questioning children and young people, exploring a range of different experiences and outcomes. This will include talking to children and young people and their families/carers who are currently negotiating gender-related distress, young adults who have gone through the process of resolving their distress and care professionals.

⁷⁶ National Institute for Health and Care Excellence (2020). [Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria](#).

⁷⁷ National Institute for Health and Care Excellence (2020). [Evidence review: gender-affirming hormones for children and adolescents with gender dysphoria](#).

The objectives of the qualitative research are to:



Progress

6.26. The literature review is already underway and is identifying relevant studies. Initial meetings have also taken place with voluntary organisations and other researchers working in the area to ensure there is no duplication and in recognition of research fatigue among this population.

6.27. Children and young people and young adults who have experienced gender-related distress are involved in the research programme. Their advice has been, and will continue to be, sought throughout this work, including in relation to the focus of the research and interpretation

of findings and the design and content of dissemination materials.

6.28. Three research protocols have been produced setting out how the research will be undertaken, and the research team is currently gaining the necessary ethical and governance approvals to progress the study. The systematic review is published on the PROSPERO website and will be published on the Review website in due course, along with the qualitative and quantitative research proposals once ethical and governance approvals have been received.

6.29. The research findings will be subject to peer review through the publication process and various summaries, aimed at different audiences, will be available on the project website and distributed via support organisations. These summaries will also be made available on the Review website.

Ongoing engagement

6.30. In recognition that not all the published evidence is likely to be of high enough quality to form the sole basis for our recommendations, a consensus development approach will be used to synthesise the published evidence and research outputs of the academic work with stakeholder submissions and expert opinion.

6.31. Over the coming months, the Review will build on its engagement to date and, alongside the academic research programme, will continue informal and structured engagement with service users, their families, support and advocacy groups and professionals to test emerging thinking, provide opportunities for challenge and further develop the evidence base.

6.32. This review is an iterative process and we will share important findings when they become available. For the latest updates, please visit our website: <https://cass.independent-review.uk/>

6.33. We thank those who have participated in the Review to date and welcome engagement with us as work progresses towards final recommendations.

Glossary



Glossary

There is sometimes no consensus on the best language to use relating to this subject. The language surrounding this area has also changed rapidly and young people have developed varied ways of describing their experiences using different terms and constructs that are relevant to them.

The Review tries as far as possible to use language and terms that are respectful and acknowledge diversity, but that also accurately illustrate the complexity of what we are trying to describe and articulate.

The terms we have used may not always feel right to some; nevertheless, it is important to emphasise that the language used is not an indication of a position being taken by the Review. The glossary below sets out a description of some of the terms we have used in the Review.

Term		Description
Affirmative model		A model of gender healthcare that originated in the USA ^{78,79,80,81} which affirms a young person's subjective gender experience while remaining open to fluidity and changes over time. This approach is used in some key child and adolescent clinics across the Western world.
Assent		To agree to or approve of something (idea, plan or request), especially after thoughtful consideration.
Autonomy		Personal autonomy is the ability of a person to make their own decisions. In health this refers specifically to decisions about their care.

⁷⁸ Hidalgo MA, Ehrensaft D, Tishelman AC, Clark LF, Garofalo R, Rosenthal SM, et al (2013). [The gender affirmative model: What we know and what we aim to learn](#) [Editorial]. Human Dev 56(5): 285–290. DOI:10.1159/000355235.

⁷⁹ Chen D, Abrams M, Clark L, Ehrensaft D, Tishelman AC, Chan YM, et al (2021). [Psychosocial characteristics of transgender youth seeking gender-affirming medical treatment: baseline findings from the trans youth care study](#). J Adol Health 68(6): 1104–11.

⁸⁰ Olson-Kennedy J, Chan YM, Rosenthal S, Hidalgo MA, Chen D, Clark L, et al (2019). [Creating the Trans Youth Research Network: A collaborative research endeavor](#). Transgend Health 4(12): 304–12. DOI: 10.1089/trgh.2019.0024.

⁸¹ Ehrensaft D, Giammattei SV, Storck K, Tishelman AC, Colton K-M (2018). [Prepubertal social gender transitions: What we know; what we can learn—A view from a gender affirmative lens](#). Int J Transgend 19(2): 251–68. DOI: 10.1080/15532739.2017.1414649.

Term		Description
Best interests		<p>Clinicians and the courts seek to act in the best interests of children and young people. For the Mental Capacity Act (MCA) 2005, decisions for someone who cannot decide for themselves must be made in their best interests. Under the Children Act 1989, in any decision of the court about a child (under 18), the welfare of the child must be paramount. For these purposes, there is little or no material difference between the welfare and best interests, and we have used “best interests” throughout the report.</p> <p>Although there is no standard definition of “best interests of the child,” the General Medical Council advises that an assessment of best interests will include what is clinically indicated as well as additional factors such as the child or young person’s views, the views of parents and others close to the child or young person and cultural, religious and other beliefs and values of the child or young person.⁸²</p>
		<p>The MCA s4,⁸³ and extensive Court of Protection case law, deals with the approach to best interests under that legislation. Whether in the Court of Protection or the High Court, when the court is asked to make an assessment of a child or young person’s best interests, it will consider their welfare/best interests in the widest sense. This will include not just medical factors but also social and psychological factors.</p>
Case-mix		The mix of patients within a particular group.
Child and adolescent mental health services	CAMHS	NHS children and young people’s mental health services. ⁸⁴

⁸² General Medical Council (2018). [0-18 years – guidance for all doctors](#).

⁸³ Mental Health Law Online. [MCA 2005 s4](#).

⁸⁴ Young Minds. [Guide to CAMHS: a guide for young people](#).

Term		Description
Child and/or young person		<p>In law, everyone under 18 years of age is a child (Children Act 1989) but we recognise that it may be more appropriate to refer to those approaching the age of 18 as a young person, and that such young people may not recognise themselves as a “child”.</p> <p>In places, we have referred only to “young person”, or only to “child”, for example where treatment in question is only given towards the later stages of childhood, closer to the age of 18, or in reference to the parent/child relationship, in which they remain the parents’ child, regardless of their age.</p> <p>Otherwise, we have used the phrase “child and/or young person” throughout the report for this reason only, and do not intend there to be a material difference between them other than that.</p>
Cognitive		Relating to, or involving, the process of thinking and reasoning.
Consent		<p>Permission for a clinical intervention (such as an examination, test or treatment) to happen. For consent to be ‘informed’, information must be disclosed to the person about relevant risks, benefits and alternatives (including the option to take no action), and efforts made to ensure that the information is understood.</p> <p>In legal terms, consent is seen as needing:</p> <p>1 – capacity (or <i>Gillick</i> competence under 16) to make the relevant decision;</p> <p>2 – to be fully informed (ie the information provided about the available options, the material risks and benefits of each option, and of doing nothing, “material” meaning (per the Montgomery Supreme Court judgment in 2015) what a reasonable patient would want to know, and what this patient actually wants to know, NOT what a reasonable doctor would tell them); and</p> <p>3 – to be freely given (that is, without coercion).</p>
Contraindications		A condition or circumstance that suggests or indicates that a particular technique or drug should not be used in the case in question.

Term		Description
Court of Appeal		(England and Wales) The Court of Appeal hears appeals against both civil and criminal judgments from the Crown Courts, High Court and County Court. It is second only to the Supreme Court.
Detransition/ detransitioners		Population of individuals who experienced gender dysphoria, chose to undergo medical and/or surgical transition and then detransitioned by discontinuing medications, having surgery to reverse the effects of transition, or both. ⁸⁵
Diagnostic and Statistical Manual of Mental Disorders Fifth edition	DSM-5	The American diagnostic manual used to diagnose mental health disorders, and commonly used in UK practice. See Appendix 3 .
Diagnostic formulation		The comprehensive assessment that includes a patient's history, results of psychological tests, and diagnosis of mental health difficulties.
Divisional Court		(England and Wales) When the High Court of Justice of England and Wales hears a case with at least two judges sitting, it is referred to as the Divisional Court. This is typically the case for certain judicial review cases (as well as some criminal cases).
Dutch Approach		Protocol published in 1998 by the Amsterdam child and adolescent gender identity clinic. ⁸⁶
Endocrine treatment		In relation to this clinical area, this term is used to describe the use of gonadotropin-releasing hormones (see below) and feminising and masculinising hormones (see below).
Endocrinologist		An endocrinologist is a medical doctor specialising in diagnosing and treating disorders relating to problems with the body's hormones.
Endocrinology		The study of hormones.

⁸⁵ Littman L (2021). [Individuals treated for gender dysphoria with medical and/or surgical transition who subsequently detransitioned: a survey of 100 detransitioners](#). Arch Sex Abuse 50: 3353–69. DOI: 10.1007/s10508-021-02163-w

⁸⁶ de Vries ALC, Cohen-Kettenis PT (2012). [Clinical management of gender dysphoria in children and adolescents: The Dutch approach](#). J Homosex 59: 301-320. DOI: 10.1080/00918369.2012.653300.

Term		Description
Epidemiology		Epidemiology is the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems. ⁸⁷
Exploratory approaches		Therapeutic approaches that acknowledge the young person's subjective gender experience, whilst also engaging in an open, curious, non-directive exploration of the meaning of a range of experiences that may connect to gender and broader self-identity. ^{88,89,90,91}
Feminising and masculinising hormones (also known as cross-sex hormones, and gender affirming hormones).		Hormones given as part of a medical transition for gender dysphoric individuals, where sex hormones (testosterone for transgender males and oestrogen for transgender females).
Gender dysphoria		Diagnostic term used in DSM-5. ⁹² Gender dysphoria describes "a marked incongruence between one's experienced/expressed gender and assigned gender of at least 6 months duration" which must be manifested by a number of criterion – see Appendix 3 for further detail.
Gender fluid		An experience of gender that is not fixed, but changes between two or more identities.
Gender identity		This term is used to describe an individual's internal sense of being male or female or something else.
Gender identity development		The developmental experience of a child or young person in seeking to understand their gender identity over time.
Gender Identity Development Service	GIDS	The service that NHS England commissions for children and adolescents with gender dysphoria.

⁸⁷ Centers for Disease Control and Prevention (2012). [Principles of Epidemiology in Public Health Practice: An introduction to Applied Epidemiology and Biostatistics](#), 3rd ed.

⁸⁸ Di Ceglie D (2009). [Engaging young people with atypical gender identity development in therapeutic work: A developmental approach](#). J Child Psychother 35(1): 3–12. DOI: 10.1080/00754170902764868.

⁸⁹ Spiliadis A (2019). [Towards a gender exploratory model: Slowing things down, opening things up and exploring identity development](#). Metalogos Systemic Ther J 35: 1–9.

⁹⁰ Churcher Clarke A, Spiliadis A (2019). [‘Taking the lid off the box’: The value of extended clinical assessment for adolescents presenting with gender identity difficulties](#). Clin Child Psychol Psychiatry 24(2): 338–52. DOI:10.1177/1359104518825288.

⁹¹ Bonfatto M, Crasnow E (2018). [Gender/ed identities: an overview of our current work as child psychotherapists in the Gender Identity Development Service](#). J Child Psychother 44(1): 29–46. DOI:10.1080/0075417X.2018.1443150.

⁹² American Psychiatric Association (2013). [Diagnostic and Statistical Manual of Mental Health Disorders: DSM-5™, 5th ed.](#)

Term		Description
Gender incongruence		Diagnostic term used in ICD-11. ⁹³ Gender incongruence is characterised by “a marked and persistent incongruence between an individual’s experienced gender and the assigned sex”. See Appendix 3 for further detail.
Gender-questioning		A broader term that might describe children and young people who are in a process of working out how they want to present in relation to their gender.
Gender-related distress		A way of describing distress that may arise from a broad range of experiences connected to a child or young person’s gender identity development. Often used for young people whereby any formal diagnosis of gender dysphoria has not yet been made.
Gillick competence/ Fraser guidelines		A term derived from <i>Gillick v West Norfolk And Wisbech AHA</i> , 1984 that is used to decide whether a child or young person up to the age of 16 years is able to consent to their own medical treatment, without the need for parental permission or knowledge. A child or young person will be ‘Gillick competent’ for that decision if they have the necessary maturity and understanding to make the decision.
Gonadotropin-releasing hormone analogues (also known as the hormone blocker/s and puberty blocker/s)	GnRH	GnRH analogues competitively block GnRH receptors to prevent the spontaneous release of two gonadotropin hormones, Follicular Stimulating Hormone (FSH) and Luteinising Hormone (LH) from the pituitary gland. This arrests the progress of puberty.
General Practitioner	GP	GPs deal with a whole range of health problems and manage the care of their patients, referring onto specialists as appropriate. ⁹⁴
High Court		The third highest court in the UK. It deals with all high value and high importance civil law (non-criminal) cases and appeals of decisions made in lower courts. When the High Court sits with more than one judge, as required for certain kinds of cases, it is called the Divisional Court.
International Classification of Diseases, Version 11	ICD-11	ICD-11 ⁹⁵ is the World Health Organization (WHO) mandated health data standard used for medical diagnosis.

⁹³ World Health Organization (2022). [International Classification of Diseases Eleventh Revision](#).

⁹⁴ NHS. [GP services](#).

⁹⁵ World Health Organization (2022). [International Classification of Diseases Eleventh Revision](#).

Term		Description
Looked after children		Children who are in the care of their Local Authority who may be living with foster parents or in a residential care setting.
Multi-disciplinary-team	MDT	The identified group of professional staff who provide a clinical service.
Neurodiverse		Displaying or characterised by autistic or other neurologically atypical patterns of thought or behaviour; not neurotypical.
Non-binary		A gender identity that does not fit into the traditional gender binary of male and female. ⁹⁶
Paediatrics		The branch of medicine dealing with children and their medical conditions.
Pass/passing		A person's gender being seen and read in the way they identify.
Precocious puberty		This is when a child's body begins changing into that of an adult (puberty) too soon – before age 8 in girls and before age 9 in boys.
Primary care		Primary care includes general practice, community pharmacy, dental and optometry (eye health) services. This tends to be the first point of access to healthcare.
Psychological formulation		A structured approach to understanding the factors underlying distressing states in a way that informs the changes needed and the therapeutic intervention for these changes to occur.
Psychosocial		Describes the psychological and social factors that encompass broader wellbeing.
Puberty blockers		See gonadotropin-releasing hormone above.
Secondary care		Hospital and community health care services that do not provide specialist care and are usually relatively close to the patient. For children this will include Child and Adolescent Mental Health Services (CAMHS), child development and general paediatric services.
Tanner Stage		Classification of puberty by stage of development. This ranges from Stage 1, before physical signs of puberty appear, to Stage 5 at full maturity.

⁹⁶ Twist J, de Graaf NM (2019). [Gender diversity and non-binary presentations in young people attending the United Kingdom's National Gender Identity Development Service](#). Clin Child Psychol Psychiatry 24(2): 277–90. DOI: 10.1177/1359104518804311.

Term		Description
Tertiary care		Tertiary care is the specialist end of the NHS. These services relate to complex or rare conditions. Services are usually delivered in a number of hospitals/centres.
Transgender	trans	This is an umbrella term that includes a range of people whose gender identity is different from the sex they were registered at birth.
Transition		These are the steps a person may take to live in the gender in which they identify. This may involve different things, such as changing elements of social presentation and role and/or medical intervention for some.

Appendix 1

Terms of reference



TERMS OF REFERENCE FOR REVIEW OF GENDER IDENTITY DEVELOPMENT SERVICE FOR CHILDREN AND ADOLESCENTS

INTRODUCTION

1. NHS England is the responsible commissioner for specialised gender identity services for children and adolescents. The Gender Identity Development Service for children and adolescents is currently managed by the Tavistock and Portman NHS Foundation Trust.
2. In recent years there has been a significant increase in the number of referrals to the Gender Identity Development Service, and this has occurred at a time when the service has moved from a psychosocial and psychotherapeutic model to one that also prescribes medical interventions by way of hormone drugs. This has contributed to growing interest in how the NHS should most appropriately assess, diagnose and care for children and young people who present with gender incongruence and gender identity issues.
3. It is in this context that NHS England and NHS Improvement's Quality and Innovation Committee has asked Dr Hilary Cass to chair an independent review, and to make recommendations on how to improve services for children and young people experiencing issues with their gender identity or gender incongruence, and ensure that the best model/s for safe and effective services are commissioned.

REVIEW SCOPE

The independent review, led by Dr Cass, will be wide ranging in scope and will conduct extensive engagement with all interested stakeholders. The review is expected to set out findings and make recommendations in relation to:

- i. Pathways of care into local services, including clinical management approaches for individuals with less complex expressions of gender incongruence who do not need specialist gender identity services;
- ii. Pathways of care into specialist gender identity services, including referral criteria into a specialist gender identity service; and referral criteria into other appropriate specialist services;
- iii. Clinical models and clinical management approaches at each point of the specialised pathway of care from assessment to discharge, including a description of objectives, expected benefits and expected outcomes for each clinical intervention in the pathway;
- iv. Best clinical approach for individuals with other complex presentations.
- v. The use of gonadotropin-releasing hormone analogues and gender affirming drugs, supported by a review of the available evidence by the National Institute for Health and Care Excellence; any treatment recommendations will include a description of treatment objectives, expected benefits and expected outcomes, and potential risks, harms and effects to the individual;
- vi. Ongoing clinical audit, long term follow-up, data reporting and future research priorities;
- vii. Current and future workforce requirements;
- viii. Exploration of the reasons for the increase in referrals and why the increase has disproportionately been of natal females, and the implications of these matters; and,

**TERMS OF REFERENCE FOR REVIEW OF GENDER IDENTITY DEVELOPMENT
SERVICE FOR CHILDREN AND ADOLESCENTS**

- ix. Any other relevant matters that arise during the course of the review
- 4. In addition, and with support from the Royal College of Paediatrics and Child Health and other relevant professional associations, the Chair will review current clinical practice concerning individuals referred to the specialist endocrine service. It is expected that findings and any recommendations on this aspect of the review will be reported early in 2021 with the review's wider findings and recommendations delivered later in 2021.
- 5. The review will not immediately consider issues around informed consent as these are the subject of an ongoing judicial review. However, any implications that might arise from the legal ruling could be considered by the review if appropriate or necessary.

Appendix 2

Letter to NHS England from
Dr Cass – May 2021





Dr Hilary Cass
Chair
Review of GIDS for Children and Young People

John Stewart
National Director
Specialised Commissioning
NHS England and NHS Improvement

Sent by email

10 May 2021

Dear John

INDEPENDENT REVIEW INTO GENDER IDENTITY SERVICES FOR CHILDREN AND YOUNG PEOPLE

I am writing to update you on my current approach to the work of the independent review into gender identity services for children and young people. However, the most pressing issue is how we augment the immediate support for children and young people currently needing assessment and treatment, some of whom have already been waiting for an extended period for an appointment. I will therefore also make some suggestions about interim arrangements and ways in which the review team could help to support and strengthen these.

Commissioned research programme

As you know, a key principle of the review is that it should be evidence-based, and that final conclusions will be developed through a consensus development process contingent on the synthesised evidence.

I am pleased to see that the National Institute for Health and Care Excellence (NICE) evidence reviews of gonadotrophin releasing hormone analogues and gender affirming hormones for children and adolescents with gender dysphoria have now been published. Although this is a helpful starting point, despite following a standard and robust process the NICE review findings are not conclusive enough to inform policy decisions. As part of my review, I am therefore exploring other methodologies to give increased confidence and clarity about the optimal treatment approaches.

My team is commissioning a broader literature review of the existing evidence base on the epidemiology, management and outcomes of children with gender dysphoria. We are also commissioning qualitative and quantitative research, including considering other approaches which might be employed to understand the intermediate and longer-term outcomes of children with gender dysphoria. We intend to include a review of international models and data in this programme of work.

Addressing the immediate situation

Recognising that the outcome of the review is going to take some time, I have been reflecting on the recent court rulings on puberty blockers and consent and the Care Quality Commission (CQC) report on the Gender Identity Development Service (GIDS) run by the Tavistock and Portman NHS Foundation Trust. These significant developments have changed the context in which the review is taking place, and further added to the service pressures.

I note the proposal to establish an independent multidisciplinary professional review group to confirm decision-making has followed a robust process, which seems an appropriate interim measure pending further clarification of the legal situation.

I know that everyone concerned with the delivery of services – both commissioners and providers – are worried about the increasing number of children on the waiting list for assessment by the GIDS service and the resulting distress for the children and young people and their families. The difficulty in managing risk for those on the waiting list is exacerbated by the staff vacancies at GIDS, the increasing volume of new referrals, and the fact that the support and engagement from local services is highly variable and, in some cases, very limited.

Having a single provider may have been a logical position when the GIDS service was first set up, given that this is a highly specialised service that was seeing a relatively small number of cases each year. As the epidemiology has changed and there has been an exponential increase in numbers of children with gender incongruence or dysphoria, concentration of expertise within a single service has become unsustainable. At the same time, local services have not developed the skills and competencies to provide support for children on the waiting list and those with lesser degrees of gender incongruence who may not wish to pursue specialist medical intervention, and / or to provide help for children with additional complex needs.

I know from discussions we have had that your team is working hard to find some practical alternative arrangements, and that you have been in discussion with relevant professional bodies to come up with creative interim solutions while awaiting the outcome of my review.

The review team has also been in discussion with CQC, with the Tavistock and Portman NHS Foundation Trust and with colleagues within and external to NHS England and NHS Improvement to consider which aspects of this situation we can help with in the short to medium term, whilst keeping our focus on the longer-term questions of the appropriate clinical management and whole care pathway for these children and young people. In the past months I have also met with many groups and individuals with expertise and lived experience relevant to the review, including charities and support groups, Royal Colleges and healthcare professionals.

Recommendations to NHS England and NHS Improvement

I would encourage you to consider the following when developing an interim pathway for children and young people experiencing gender dysphoria:

- **Access and referral:** Children and young people need ready access to services. However, it is unusual for a specialist service to take direct referrals. The risk of having a national service as the first point of access is that assessment and treatment of children and young people who have the greatest need for specialist care is delayed because of the lack of differentiation of those on the waiting list. In addition, many children and

young people have complex needs, but once they are identified as having gender dysphoria, other important healthcare issues which would normally be managed by local services can sometimes be overlooked.

- **Assessment and management:** All children and young people who are referred to specialist services should have a competent local multi-disciplinary assessment and should remain under active holistic local management until they are seen at a specialist centre.

I recognise that developing capacity and capability outside of the existing GIDS service to provide such initial assessment and support will be difficult to achieve at speed and will be incremental. This means that there will likely be a range of different models and options around the country, dependent on local resources, with some of the work being delivered through existing secondary service teams, and some being delivered at regional level. The support of wider services is vital.

- **Data:** The lack of systematic data collection is a significant issue. Therefore, when employing interim measures, I would suggest that particular attention is paid to the gathering of good quality data, which can then be used to inform the evidence base and future model of provision.

Actions for the review team

I would like to suggest how the review team might help with the challenging problem of growing an infrastructure outside of GIDS. From my conversations to date, I believe there are three barriers to the involvement of local services:

- **Capacity** – the staff most appropriately trained to be involved in initial assessment are those who are already most stretched within Child and Adolescent Mental Health Services (CAMHS) and paediatric services, and this situation has been significantly worsened through the impact of the Covid-19 pandemic on children's mental health. However, I know that there is substantial investment in CAMHS services, so close engagement with the relevant national policy teams at NHS England and NHS Improvement and at Health Education England (HEE) will be crucial.
- **Capability and confidence** – clinical teams outside of GIDS do not feel confident in initial assessment and support of children and young people with gender incongruence and dysphoria, in large part because they have not had the necessary training and experience, but also because of the societal polarisation and tensions surrounding the management of this group.
- **Lack of an explicit assessment framework** – currently expertise in assessment of children and young people presenting to GIDS is held in a small body of clinicians and their assessment processes have not been made explicit. The CQC report drew attention to the lack of structured assessment in the GIDS notes, and this is something that the Tavistock and Portman NHS Foundation Trust is already working to address internally. However, it is equally important to develop an initial assessment approach that can be used by first contact professionals, not just those working in the specialist service.

In the first instance, it is important that we test these assumptions with a range of clinical staff and ascertain whether there are other barriers that are preventing local engagement in this work. Then we would plan to prioritise a series of workshops, in collaboration with relevant professional groups, service users and close engagement with HEE. The purpose of these workshops would be to address identified barriers and develop:

- A framework for initial assessment of children and young people presenting with gender dysphoria.
- An approach to training for professionals at local and regional level.
- Some preliminary workforce recommendations, which will be particularly important in meeting the timelines of the three-year Comprehensive Spending Review.

These workshops will serve multiple purposes – firstly to support NHS England and NHS Improvement in the establishment of local and / or regional teams; secondly as an essential component of the work needed to inform the questions that the review is tackling; and thirdly to form the professional networks that will be needed to underpin future service and research networks.

Timelines

As you will recognise, setting up a complex national review is difficult and time consuming at the best of times. It requires a team to support the work and mechanisms for stakeholders to engage safely and with confidence. Starting a review in the midst of a pandemic is even more challenging.

I have committed to a review approach which is participative, consensus-based, evidence-based, transparent, and informed by lived and professional experience. This requires extensive engagement. Pending the appointment of our research team, the review has now launched its website and I have been proactively engaging with the stakeholder community.

It is critical that we get the approach right, particularly the engagement, the evidence review and the quantitative research given the gaps in the evidence highlighted through the NICE review, and this will take time.

My intention is that an interim report will be delivered in the summer, with a report next year setting out my final recommendations.

Yours sincerely



Dr Hilary Cass
Chair, Independent Review into Gender Identity Services for Children and Young People

Cc: Care Quality Commission
Health Education England
Tavistock and Portman NHS Foundation Trust

Appendix 3

Diagnostic criteria for gender dysphoria



DSM-5 diagnostic criteria for gender dysphoria

Gender Dysphoria in Children

A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least six of the following (one of which must be Criterion A1):

1. A strong desire to be of the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender).
2. In boys (assigned gender), a strong preference for cross-dressing or simulating female attire; or in girls (assigned gender), a strong preference for wearing only typical masculine clothing and a strong resistance to the wearing of typical feminine clothing.
3. A strong preference for cross-gender roles in make-believe play or fantasy play.
4. A strong preference for the toys, games, or activities stereotypically used or engaged in by the other gender.
5. A strong preference for playmates of the other gender.
6. In boys (assigned gender), a strong rejection of typically masculine toys, games, and activities and a strong avoidance of rough-and-tumble play; or in girls (assigned gender), a strong rejection of typically feminine toys, games, and activities.

7. A strong dislike of one's sexual anatomy.
8. A strong desire for the primary and/or secondary sex characteristics that match one's experienced gender.

B. The condition is associated with clinically significant distress or impairment in social, school, or other important areas of functioning.

Specify if:

With a disorder of sex development (e.g., a congenital adrenogenital disorder such as congenital adrenal hyperplasia or androgen insensitivity syndrome).

Gender Dysphoria in Adolescents and Adults

A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least two of the following:

1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics).
2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics).

3. A strong desire for the primary and/or secondary sex characteristics of the other gender.
4. A strong desire to be of the other gender (or some alternative gender different from one's assigned gender).
5. A strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender).
6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender).

B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:

With a disorder of sex development (e.g., a congenital adrenogenital disorder such as congenital adrenal hyperplasia or androgen insensitivity syndrome).

Specify if:

Post transition: the individual has transitioned to full-time living in the desired gender (with or without legalization of gender change) and has undergone (or is preparing to have) at least one cross-

sex medical procedure or treatment regimen – namely, regular cross-sex hormone treatment or gender reassignment surgery confirming the desired gender (e.g., penectomy, vaginoplasty in a natal male; mastectomy or phalloplasty in a natal female).

ICD-11: HA60 Gender incongruence of adolescence or adulthood

Gender Incongruence of Adolescence and Adulthood is characterised by a marked and persistent incongruence between an individual's experienced gender and the assigned sex, which often leads to a desire to 'transition', in order to live and be accepted as a person of the experienced gender, through hormonal treatment, surgery or other health care services to make the individual's body align, as much as desired and to the extent possible, with the experienced gender. The diagnosis cannot be assigned prior the onset of puberty. Gender variant behaviour and preferences alone are not a basis for assigning the diagnosis.

Exclusions:

Paraphilic disorders.

ICD-11: HA61 Gender incongruence of childhood

Gender incongruence of childhood is characterised by a marked incongruence between an individual's experienced/expressed gender and the assigned sex in pre-pubertal children. It includes a strong desire to be a different gender than the assigned sex; a strong dislike on the child's part of his or her sexual anatomy or anticipated secondary sex characteristics and/or a strong desire for the primary and/or anticipated secondary sex characteristics that match the experienced gender; and make-believe or fantasy play, toys, games, or activities and playmates that are typical of the experienced gender rather than the assigned sex. The incongruence must have persisted for about 2 years. Gender variant behaviour and preferences alone are not a basis for assigning the diagnosis.

Exclusions:

Paraphilic disorders.

Appendix 4

The standard approach to
clinical service development



The standard approach to clinical service development

The three examples below illustrate the usual process of developing a clinical service: Covid-19 is included because this is a new condition that everyone is familiar with; childhood epilepsy because it is a complex condition with physical manifestations; and autism because it is a condition with neuro-behavioural manifestations.

By comparing these examples of clinical service development, it is possible to demonstrate some of the challenges in developing services for children and young people with gender incongruence or dysphoria, and to identify where there are gaps and questions that need to be addressed for this population, in order to ensure any future service model delivers the highest possible standards of care.

The stages below may proceed in a different sequence for different conditions, but each stage is important in the development of evidence based care.

Stage	Covid-19	Childhood Epilepsy	Autism
New condition is observed This often begins with a few case reports and then clinicians begin to recognise a recurring pattern and key clinical features, and to develop fuller descriptions of the condition.	Covid-19 is an example of a recent new condition that we all recognise, and this started with a few unusual cases of respiratory illness being described in Wuhan.	Childhood epilepsy has been recognised for centuries, but over the last century there has been growing understanding of the many different subtypes.	Individuals with autism have probably also existed for an indefinite period, but it wasn't until 1943 and 1944 that Leo Kanner and Hans Asperger wrote the first scientific accounts about the condition.

Independent review of gender identity services for children and young people

Stage	Covid-19	Childhood Epilepsy	Autism
Aetiology Clinicians and scientists try to work out the cause of the condition or the underlying physical or biological basis. Sometimes the answers to this are never found.	The cause of Covid-19 was identified at a very early stage as being due to a novel coronavirus, although it remains unclear where and how this originated.	It is now known that there are numerous different types of epilepsy, with many different causes – for example, epilepsy can be caused by specific epilepsy genes, by birth trauma, by metabolic conditions, by brain tumours and many other mechanisms. Epilepsies due to a change in the brain structure which occur after birth are called ‘symptomatic’ – they are a symptom of something else. Epilepsies for which there is no identified cause are called ‘idiopathic’.	The first theory about the aetiology of autism was that it was caused by so called ‘refrigerator parents’. This was inaccurate and damaging. It has subsequently been shown that there are many complex genetic and physical or chemical brain changes underpinning this condition.
Natural history and prognosis It is important to understand how a condition usually evolves over time, with or without treatment. The latter is important if treatment has limited efficacy and the condition is ‘self-limiting’ (that is, it resolves without treatment), because otherwise there is a risk that treatments create more difficulties than the condition itself.	Covid-19 is an example of a condition where there are quite polarised views about management based on its prognosis and natural history. A relatively small proportion of people are seriously affected and need treatment, and for the majority the natural history is that it will get better by itself. This has led some people to question the need for lockdowns, vaccinations and other measures which they see as impacting personal freedoms.	In epilepsy the natural history is very important. Some epilepsies get better through puberty and into adulthood, and some can get worse with hormonal changes. This is important to know when monitoring and reviewing drug treatment.	

Stage	Covid-19	Childhood Epilepsy	Autism
<p>Epidemiology</p> <p>Epidemiologists collect data to find out how common a condition is, who is most likely to be affected, what the age distribution is and so on. This allows health service planners to work out how many services are needed, where they should be established, and what staff are needed.</p> <p>They also report on changes in who is most affected, which may mean that either the disease is changing, or the susceptibility of the population is changing.</p>	<p>Epidemiologists have been crucial in supporting the management of Covid-19 because they have extracted and analysed the data on which patients are at greater risk from the virus. This has been fundamental to planning a vaccination strategy and other protective measures.</p>		<p>The epidemiology of autism has changed considerably, with a dramatic increase in the numbers of children diagnosed over the last 20 years. This has had major implications for service provision. There is ongoing debate about the cause of the increase – whether it is because of greater awareness and better diagnosis, or because there are more children with autism. Current opinion favours the first option.</p>

Independent review of gender identity services for children and young people

Stage	Covid-19	Childhood Epilepsy	Autism
<p>Assessment and diagnosis</p> <p>Clinicians will usually take a history from (that is, of their symptoms) and examine the patient (that is, for signs and symptoms), and where appropriate undertake a series of investigations or tests, to help them reach an accurate diagnosis.</p> <p>Sometimes the whole process of making a diagnosis through talking to the patient and asking them to complete formal questionnaires, examining them and/or undertaking investigations is called 'clinical assessment'.</p> <p>As well as diagnosing and ruling out a particular condition, clinicians often need to consider and exclude other, sometimes more serious, conditions that present in a similar way but may need quite different treatment – this process is called 'differential diagnosis'.</p>	<p>PCR has been used as a 'gold standard' test for diagnosis of Covid-19 since the beginning of the pandemic. Lateral flow testing was developed to provide a quicker and cheaper option, but it demonstrates the limitations of testing; it is 99.68% specific, which is a very high specificity. This means there are only a tiny number of false positives. It has lower sensitivity at 76.8%, which means it will miss about a quarter of all cases, so giving many more false negatives, BUT it will only miss 5% of cases with high viral load.</p>	<p>Epilepsy can only be definitively diagnosed by either getting a really clear description of the events from a parent or carer, or seeing the child or young person having a seizure on a video. An EEG (brain wave tracing) and other tests can provide information about the type of epilepsy, but unless a seizure happens during the recording, it does not demonstrate that they actually have seizures – only that they may be susceptible to seizures.</p>	<p>In autism there are no blood tests or X-rays to make the diagnosis. It is a 'clinical' diagnosis, which means it is dependent on taking a standardised history from the parents, and performing standardised assessments on the child or young person to distinguish between autism and other possible diagnoses (for example, language disorder, social anxiety). In the early days, these standardised measures did not exist; the diagnosis was very dependent on experts who were used to diagnosing autism by making a clinical judgement about each child. This made it difficult to teach new people how to do this without a long apprenticeship, and also made it difficult to know whether two different experts would come to the same conclusion about the same child or young person. Standardisation of the questions and process made diagnosis more reliable and consistent, as did an improved evidence base.</p> <p>At the same time, because children with autism all present differently, the assessment had to be flexible enough to accommodate, for example, non-verbal children with severe learning disability, as well as high-functioning children with strong verbal skills.</p>

Stage	Covid-19	Childhood Epilepsy	Autism
<p>Differential diagnosis</p> <p>As well as making a positive diagnosis, clinicians often need to exclude other, sometimes more serious conditions that present in a similar way, but may need quite different treatment.</p>		<p>There are conditions that can be mistaken for epilepsy, so it is important to accurately diagnose whether seizures are happening and exclude other conditions (differential diagnoses) by carrying out relevant tests.</p>	<p>There are many conditions that may be mistaken for autism – for example, children who have language disorders, learning disability, severe social anxiety for other reasons, or ADHD can all appear to have autism. It is important to exclude these other conditions as well as making a positive diagnosis of autism. Sometimes these conditions can exist alongside autism, and management must then be planned to address all the child's difficulties.</p>

Independent review of gender identity services for children and young people

Stage	Covid-19	Childhood Epilepsy	Autism
<p>Developing and implementing new treatments</p> <p>Clinicians and scientists work on developing treatments. This involves clinical trials and, where there are new treatments, comparing them to any existing treatments. Questions include: What are the intended outcomes or benefits of treatment? What are the complications or side effects? What are the costs? To initiate a new treatment, it must be both safe and effective. Questions of affordability can sometimes become controversial.</p> <p>The best type of single study is considered to be the randomised controlled trial (RCT), but sometimes this is not feasible. Even where RCTs are not available, it is usual to at least have data on the outcomes of sufficient cases or cohorts to understand the risk/benefit of the treatment under consideration. As demonstrated in Fig. 3, the highest level of evidence is when the results of several different studies are pooled, but this is only useful if the individual studies themselves are of high quality.</p>	<p>Developing treatments for Covid-19 has been possible at speed because of the large numbers of patients, and the fact that outcomes can be observed on each patient within a matter of days to weeks. Because Covid-19 was a new condition, clinicians also started in a position of 'equipoise' which means that they did not have reason to believe any one treatment might be more effective than another; this made it ethical to have one group having a treatment and another group having a different treatment or a placebo. There are also really clear outcome measures, such as whether or not patients survive or need hospitalisation. This has facilitated a high level of evidence through randomised controlled trials (see diagram below).</p>	<p>Similar considerations apply to the treatment of epilepsy in that there are 'hard' outcome measures (for example, frequency of seizures), but it can take several months to determine whether a new drug is better than an existing one for any one patient, and some side effects may be longer-term, so trials can take several years. In addition, children with epilepsy may have very different conditions causing their seizures which can also make trials more challenging.</p> <p>In the most severe cases of epilepsy, surgery may be the best option for controlling seizures. This can be very radical in certain cases and have lifelong implications for how they function. These options, which have a cost as well as a benefit to the child, will only be offered after a multi-disciplinary team meeting, including the paediatricians, therapists, neuropsychologists, radiologists, neurophysiologists and neurosurgeons have all discussed whether the benefits will outweigh the costs.</p>	<p>Evaluating interventions for autism is the most difficult of these three examples. This is because it can take many years to see developmental outcomes; it is hard to get uniform groups of children; outcomes are extremely sensitive to the social (and historical) response of others; and many other things happen in children's lives (such as changes of school, other medications, new diets). Isolating the effect of the target treatment is therefore challenging.</p>

Stage	Covid-19	Childhood Epilepsy	Autism
In many instances, evidence is not perfect and difficult decisions have to be made. Where treatments are innovative or life-changing, the whole multi-disciplinary team will usually meet to consider the available options, and how to advise the child or young person and family so that a shared decision can be made. Sometimes an ethics committee is involved. This is one of the most challenging areas of medicine and is underpinned by GMC guidance. ^{97, 98}	The UK has been internationally recognised for its Recovery Trial, led by Oxford University. This has recruited over 46,000 participants, and resulted in several treatments being approved. A key factor in this success was the willingness of patients to participate in these studies – with over 46,000 being recruited and consented.		

⁹⁷ General Medical Council (2020). [Decision making and consent](#).

⁹⁸ National Institute for Health and Care Excellence (2021). [Shared decision making](#).

Independent review of gender identity services for children and young people

Stage	Covid-19	Childhood Epilepsy	Autism
<p>Service development and service improvement</p> <p>Central to any service improvement is the systematic and consistent collection of data on outcomes of treatment. There is a process of continuous service improvement as new presentations or variations on the original condition are recognised, diagnosis or screening improves and/or trials on new treatments or variations on existing treatments are ongoing. There should be consistent treatment protocols or guidelines in place, in order to make sense of variations in outcomes. Where possible, these should be compared between and across multiple different centres. As time passes, services need to be changed or extended based on patient need, and on what resources are needed to deliver the available treatments. They need to be accessible where the prevalence of the condition is highest. The relevant workforce to deliver the service needs to be recruited and trained, contingent on the type of treatments or therapy that is required.</p>	<p>Service development to manage Covid-19 has been on a scale unlike any normal new service development ever experienced. It has also demonstrated how other non-Covid services have had to evolve alongside, including the need for isolation, and/or PCR testing prior to routine clinical appointments, use of remote consultation and an array of other changes across the NHS. Continuous audit and monitoring of outcomes has resulted in major improvements in survival – for example, changing ventilation approach to include ‘proning’ (putting patients on their front while on the ventilator) and delaying fully intubated ventilation by giving mask ventilation for as long as possible.</p>	<p>Paediatric epilepsy is a good example of how a national approach can be taken to service improvement through the Epilepsy12 programme.⁹⁹ This is a nationally co-ordinated audit which collects a standardised dataset, incorporating NICE standards, and is used to drive up standards of care for children and young people with epilepsy.</p>	<p>Improvement in autism services has been driven by the changing epidemiology, NICE standards, extensive training of the workforce and attempts to improve public understanding. Where previously diagnosis was undertaken in a few specialist centres, the rising waiting times and NICE standards on access, assessment and appropriate multi-professional provision have led to almost every community child development service having an autism assessment clinic or team. Services are able to self-assess against national standards to inform local improvement strategies.</p>

⁹⁹ Royal College of Paediatrics and Child Health (2021). [Epilepsy 12 – national organisational audit and clinical audit](#).

References

[AB v CD & Ors \[2021\] EWHC 741.](#)

American Psychiatric Association (2013). [Diagnostic and Statistical Manual of Mental Health Disorders: DSM-5TM, 5th ed.](#)

[Bell v Tavistock \[2020\] EWHC 3274 \(Admin\).](#)

Bloom TM, Nguyen TP, Lami F, Pace CC, Poulakis Z, Telfer N (2021). [Measurement tools for gender identity, gender expression, and gender dysphoria in transgender and gender-diverse children and adolescents: a systematic review.](#) Lancet Child Adolescent Health. 5: 582-588. DOI: 10.1016/s2352-4642(21)00098-5.

Bonfatto M, Crasnow E (2018). [Gender/ed identities: an overview of our current work as child psychotherapists in the Gender Identity Development Service.](#) J Child Psychother 44(1): 29–46. DOI:10.1080/0075417X.2018.1443150.

Brik T, Vrouenraets LJ, de Vries MC, Hannema SE (2020). [Trajectories of adolescents treated with gonadotropin-releasing hormone analogues for gender dysphoria.](#) Arch Sex Behav 49: 2611–8. DOI: 10.1007/s10508-020-01660-8.

Care Quality Commission (2021). [The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report.](#) London: CQC.

Carmichael P, Butler G, Masic U, Cole TJ, De Stavola BL, Davidson S, et al (2021). [Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK.](#) PLoS One. 16(2):e0243894. DOI:10.1371/journal.pone.0243894.

Centers for Disease Control and Prevention (2012). [Principles of Epidemiology in Public Health Practice: An introduction to Applied Epidemiology and Biostatistics, 3rd ed.](#)

Chen D, Abrams M, Clark L, Ehrensaft D, Tishelman AC, Chan YM, et al (2021). [Psychosocial characteristics of transgender youth seeking gender-affirming medical treatment: baseline findings from the trans youth care study.](#) J Adol Health 68(6): 1104–11.

Chen D, Strang JF, Kolbuck VD, Rosenthal SM, Wallen K, Waber DP, et al (2020). [Consensus parameter: research methodologies to evaluate neurodevelopmental effects of pubertal suppression in transgender youth](#). Transgender Health 5(4). DOI: 10.1089/trgh.2020.0006.

Churcher Clarke A, Spiliadis A (2019). [‘Taking the lid off the box’: The value of extended clinical assessment for adolescents presenting with gender identity difficulties](#). Clin Child Psychol Psychiatry 24(2): 338–52. DOI:10.1177/1359104518825288.

Cohen-Kettenis PT, Steensma TD, de Vries ALC (2001). [Treatment of adolescents with gender dysphoria in the Netherlands](#). Child Adolesc Psychiatr Clin N Am 20: 689–700. DOI: 10.1016/j.chc.2011.08.001.

Cohen-Kettenis PT, Van Goozen S (1998). [Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent](#). Eur Child Adolesc Psychiatry 7: 246–8. DOI: 10.1007/s007870050073.

de Graaf NM, Carmichael P, Steensma TD, Zucker KJ (2018). [Evidence for a change in the sex ratio of children referred for Gender Dysphoria: Data from the Gender Identity Development Service in London \(2000–2017\)](#). J Sex Med 15(10): 1381–3. DOI: 10.1016/j.jsxm.2018.08.002.

de Graaf NM, Giovanardi G, Zitz C, Carmichael P (2018). [Sex ratio in children and adolescents referred to the gender identity development service in the UK \(2009-2016\)](#). Arch Sex Behav 47(5): 1301–4.

de Vries ALC, Cohen-Kettenis PT (2012). [Clinical management of gender dysphoria in children and adolescents: the Dutch approach](#). J Homosex 59: 301–320. DOI: 10.1080/00918369.2012.653300.

Delemarre-van de Wall HA, Cohen-Kettenis PT (2006). [Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects](#). Eur J Endocrinol 155 (Suppl 1): S131–7. DOI: 10.1530/eje.1.02231.

Delevichab K, Klinger M, Nana OJ, Wilbrecht L (2021). [Coming of age in the frontal cortex: The role of puberty in cortical maturation](#). Semin Cell Dev Biol 118: 64–72. DOI: 10.1016/j.semcdb.2021.04.021.

Di Ceglie D (2009). [Engaging young people with atypical gender identity development in therapeutic work: A developmental approach](#). J Child Psychother 35(1): 3–12. DOI: 10.1080/00754170902764868.

Ehrensaft D, Giammattei SV, Storck K, Tishelman AC, Colton K-M (2018). [Prepubertal social gender transitions: What we know; what we can learn—A view from a gender affirmative lens](#). Int J Transgend 19(2): 251–68. DOI: 10.1080/15532739.2017.1414649.

[EWCA \[2021\] Civ 1363.](#)

Gender Identity Clinic, The Tavistock and Portman NHS Foundation Trust. [Waiting times.](#)

Gender Identity Development Service. [Referrals to GIDS, financial years 2010-11 to 2020-21.](#)

General Medical Council (2018). [0-18 years – guidance for all doctors.](#)

General Medical Council (2020). [Decision making and consent.](#)

General Medical Council (2021). [Good practice in prescribing and managing medicines and devices \(76-78\).](#)

[Gillick v West Norfolk and Wisbech AHA \[1986\] AC 112.](#)

Goddings A-L, Beltz A, Jiska S, Crone EA, Braams BR (2019). [Understanding the role of puberty in structural and functional development of the adolescent brain.](#) J Res Adolesc 29(1): 32–53. DOI: 10.1111/jora.12408.

Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al (2017). [Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society clinical practice guideline.](#) J Clin Endocrinol Metab 102(11): 3869–903. DOI: 10.1210/jc.2017-01658.

Hidalgo MA, Ehrensaft D, Tishelman AC, Clark LF, Garofalo R, Rosenthal SM, et al (2013). [The gender affirmative model: What we know and what we aim to learn](#) [Editorial]. Human Dev 56(5): 285–290. DOI:10.1159/000355235.

Kyriakou A, Nicolaides NC, Skordis N (2020). [Current approach to the clinical care of adolescents with gender dysphoria.](#) Acta Biomed 91(1): 165–75. DOI: 10.23750/abm.v91i1.9244.

Littman L (2021). [Individuals treated for gender dysphoria with medical and/or surgical transition who subsequently detransitioned: a survey of 100 detransitioners.](#) Arch Sex Abuse 50: 3353–69. DOI: 10.1007/s10508-021-02163-w

Matthews T, Holt V, Sahin S, Taylor A, Griksaitis (2019). [Gender Dysphoria in looked-after and adopted young people in a gender identity development service.](#) Clinical Child Psychol Psychiatry 24: 112–128. DOI: 10.1177/1359104518791657.

Mental Health Law Online. [MCA 2005 s4.](#)

[National Health Service Commissioning Board and Clinical Commissioning Groups \(Responsibilities and Standing Rules\) Regulations 2012.](#)

National Institute for Health and Care Excellence (2020). [Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria.](#)

National Institute for Health and Care Excellence (2020). [Evidence review: gender-affirming hormones for children and adolescents with gender dysphoria.](#)

National Institute for Health and Care Excellence (2021). [Shared decision making.](#)

NHS. [GP services.](#)

Office for National Statistics (2019). [What is the difference between sex and gender?](#)

Olson-Kennedy J, Chan YM, Rosenthal S, Hidalgo MA, Chen D, Clark L, et al (2019). [Creating the Trans Youth Research Network: A collaborative research endeavor.](#) Transgend Health 4(12): 304–12. DOI: 10.1089/trgh.2019.0024.

OpenMD (2021). [New Evidence in Medical Research.](#)

Royal College of Paediatrics and Child Health (2021). [Epilepsy 12 – national organisational audit and clinical audit – 2021.](#)

Scobie S, Castle-Clarke S (2019). [Implementing learning health systems in the UK NHS: Policy actions to improve collaboration and transparency and support innovation and better use of analytics.](#) Learning Health Systems 4(1): e10209. DOI:10.1002/lrh.2.10209.

Sievert EDC, Schweizer K, Barkmann C, Fahrenkrug S, Becker-Hebly I (2020). [Not social transition status, but peer relations and family functioning predict psychological functioning in a German clinical sample of children with Gender Dysphoria.](#) Clin Child Psychol Psychiatry 26(1): 79–95. DOI: 10.1177/1359104520964530

Spiliadis A (2019). [Towards a gender exploratory model: Slowing things down, opening things up and exploring identity development.](#) Metalogos Systemic Ther J 35: 1–9.

Steensma TD, Biemond R, de Boer F, Cohen-Kettenis PT (2011). [Desisting and persisting gender dysphoria after childhood: a qualitative follow-up study.](#) Clin Child Psychol Psychiatry 16(4): 485–97. DOI: 10.1177/135910451037803.

Steensma TD, Cohen-Kettenis PT, Zucker KJ (2018). [Evidence for a change in the sex ratio of children referred for gender dysphoria: Data from the Center of Expertise on Gender Dysphoria in Amsterdam \(1988-2016\).](#) Journal of Sex & Marital Therapy 44(7): 713–5. DOI: 10.1080/0092623X.2018.1437580.

Steensma TD, McGuire JK, Kreukels BPC, Beekman AJ, Cohen-Kettenis PT (2013). [Factors associated with desistence and persistence of childhood gender dysphoria: a quantitative follow-up study.](#) J Am Acad Child Adolesc Psychiatry 52: 582–590. DOI: 10.1016/j.jaac.2013.03.016.

Turban JL, King D, Carswell JM, et al (2020). [Pubertal suppression for transgender youth and risk of suicidal ideation](#). Pediatrics 145 (2): e20191725. DOI: 10.1542/peds.2019-1725.

Twist J, de Graaf NM (2019). [Gender diversity and non-binary presentations in young people attending the United Kingdom's National Gender Identity Development Service](#). Clin Child Psychol Psychiatry 24(2): 277–90. DOI: 10.1177/1359104518804311.

Van Der Miesen AIR, Hurley H, De Vries ALC (2016). [Gender dysphoria and autism spectrum disorder: A narrative review](#). Int Rev Psychiatry 28: 70-80. DOI: 10.3109/09540261.2015.1111199.

Vrouenraets LJ, Fredriks AM, Hannema SE, Cohen-Kettenis PT, de Vries MC (2015). [Early medical treatment of children and adolescents with gender dysphoria: an empirical ethical study](#). J Adolesc Health 57(4): 367-73. DOI: 10.1016/.2015.04.004.

World Health Organization (2022). [International Classification of Diseases Eleventh Revision](#).

Wren B (2019). Notes on a crisis of meaning in the care of gender-diverse children. In: Hertzmann L, Newbiggin J (eds) Sexuality and Gender Now: Moving Beyond Heteronormativity. Routledge.

Young Minds. [Guide to CAMHS: a guide for young people](#).

Zucker KJ (2017). [Epidemiology of gender dysphoria and transgender identity](#). Sex Health 14(5): 404–11. DOI:10.1071/SH1.

Zucker KJ, Lawrence AA (2009). [Epidemiology of gender identity disorder: recommendations for the Standards of Care of the World Professional Association for Transgender Health](#). Int J Transgend 11(1): 8-18. DOI: 10.1080/15532730902799946.

Assessment and support of children and adolescents with gender dysphoria

Gary Butler,^{1,2,3} Nastasja De Graaf,³ Bernadette Wren,³
Polly Carmichael³

INTRODUCTION

There has been a large increase in the number of children and adolescents who question conventional gender expectations and seek recognition and acceptance of their gender diversity, wishing to develop a body that is congruent with their gender feelings.¹ Professionals may be unsure how best to provide supportive care, how to access the national Gender Identity Development Service (GIDS) for children and adolescents, or how to deal with a transgender young person presenting with another clinical problem unrelated to their gender transition. Faced with very distressed young people, they may feel under pressure to initiate physical intervention without consultation with psychosocial colleagues. It is important that all professionals are aware of the care pathway for transgender children that may be of relevance in a range of paediatric settings. The purpose of this practice review is to present an up-to-date perspective on the care of transgender children and adolescents to guide management and to enable the provision of a practical, evidence-based approach to their support.

FREQUENCY OF GENDER QUESTIONING IN CHILDREN

Gender atypical behaviour is common among young children and can be part of general development. It is difficult to determine the exact incidence and prevalence of more intense and long-standing gender dysphoria (GD) in the UK and elsewhere as the total number of children and young people referred to the GIDS has risen exponentially since 2011² (figure 1). A striking feature of this increase is the large proportion of birth-registered females from 2011 onwards. This increase

and the change in sex ratio is also seen in other countries.¹ The reasons are not fully explicable and a number of questions arise. Is this increase due mostly to the greater tolerance of gender-diverse expression in westernised society? Is male status still regarded as preferable? Are all referrals to a specialist service appropriate and do all these young people have ascertainable GD? What are the benefits, as well as the possible harms, in supporting and helping these young people at different stages of development?

THE GIDS

Support for children and adolescents up to the age of 18 years has been provided through the Tavistock and Portman NHS Trust in London for over 20 years. The GIDS was nationally commissioned by NHS England in 2009 and extended to Leeds in 2012, providing regular outreach clinics in other areas of the UK. Endocrine evaluation and support has been provided through University College Hospital London for over two decades, and Leeds Children's Hospital since 2013. Care is provided according to an agreed service schedule,³ taking into account international guidance from the World Professional Association for Transgender Health (WPATH)⁴ and the recent guidelines from the Endocrine Society.⁵

CRITERIA FOR THE DIAGNOSIS OF GD

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition⁶ provides one overarching diagnosis of GD with separate specific criteria for children and for adolescents and adults. The diagnosis involves a difference between one's experienced/expressed gender and assigned gender, and significant distress or problems in everyday functioning. Diagnosis can be made when at least two features have been present for 6 months or more (box 1). For children, cross-gender behaviours may start between the ages 2 and 4, the same age at which most typically developing children begin showing gendered behaviours and interests. The diagnosis of GD involves at least six of the criteria and an associated significant distress or impairment in function, lasting at least 6 months (box 2).

RANGE OF GENDER VARIANT PRESENTATION TO THE GIDS

Young people referred to the GIDS are a heterogeneous group and may identify in various ways. Most young people coming to gender services report feeling more in line with the opposite gender than that in which they were registered at birth (box 3). This may be accompanied by feelings of distress, particularly around the body which does not fit with the experienced gender identity. Young people who do not identify within the two-binary model of gender, but rather hold a gender identity other than male or female, are referred to as *non-binary*.⁷ Around 11% of the referred adolescents report a non-binary identity and often use labels such as 'gender neutral' or 'gender fluid' (Twist and De Graaf, submitted, 2017). Some young people

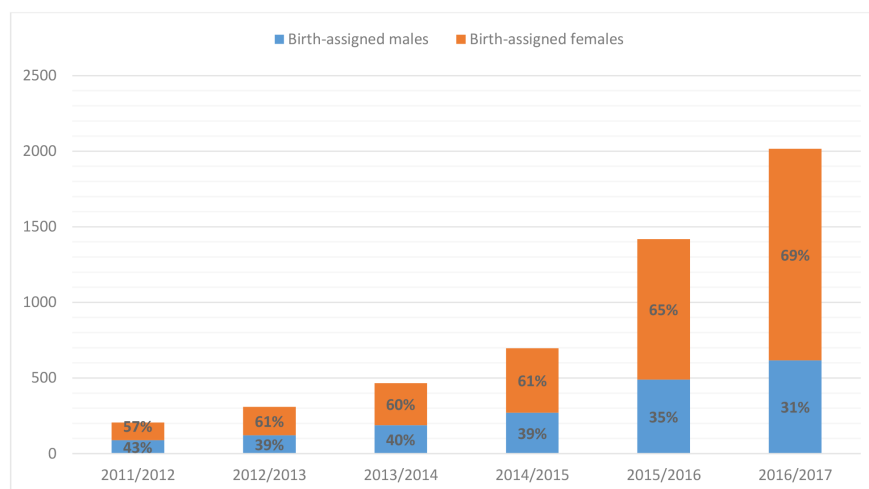


Figure 1 Referrals to the Gender Identity Development Service by birth-registered gender, April 2011–April 2017.

¹Department of Paediatric and Adolescent Endocrinology, University College London Hospital NHS Trust, London, UK

²UCL Great Ormond Street Institute of Child Health, London, UK

³National Gender Identity Development Service, Tavistock and Portman NHS Trust, London, UK

Correspondence to Professor Gary Butler, Department of Paediatric and Adolescent Endocrinology, University College London Hospital NHS Trust, London NW1 2PQ, UK; gary.butler@ucl.ac.uk

Box 1 Criteria for the diagnosis of gender dysphoria in adults

- ▶ A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics.
- ▶ A strong desire to be rid of one's primary and/or secondary sex characteristics.
- ▶ A strong desire for the primary and/or secondary sex characteristics of the other gender.
- ▶ A strong desire to be of the other gender.
- ▶ A strong desire to be treated as the other gender.
- ▶ A strong conviction that one has the typical feelings and reactions of the other gender.

are unsure about their gender identity and seek support from professionals to help them reflect and explore. Although gender-diverse young people tend to experience some psychological or social difficulties, gender diversity is not necessarily associated with distress.⁴

APPROPRIATE ASSESSMENTS PRIOR TO REFERRAL

The GIDS is an unusual multidisciplinary service in that the initial assessment phase

Box 2 Criteria for the diagnosis of gender dysphoria in children and adolescents

- ▶ A strong desire to be of the other gender or an insistence that one is the other gender.
- ▶ A strong preference for wearing clothes typical of the opposite gender.
- ▶ A strong preference for cross-gender roles in make-believe play or fantasy play.
- ▶ A strong preference for the toys, games or activities stereotypically used or engaged in by the other gender.
- ▶ A strong preference for playmates of the other gender.
- ▶ A strong rejection of toys, games and activities typical of one's assigned gender.
- ▶ A strong dislike of one's sexual anatomy.
- ▶ A strong desire for the physical sex characteristics that match one's experienced gender.

Box 3 A glossary of useful terminology

Gender identity

- ▶ Gender identity is the individual's deeply held personal sense of their own gender as male or female, neither or both.

Gender dysphoria

- ▶ Gender dysphoria, as a general descriptive term, refers to an individual's discontent with their 'assigned' gender and their identification with a gender other than that associated with their birth sex based on physical sex characteristics. 'Dysphoria' relates to the distress and unease experienced. The term is more specifically defined when used as a diagnosis (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition).

Transgender

- ▶ Transgender refers to the broad spectrum of individuals who identify with a gender other than that associated with their birth sex.

Gender variance and gender diversity

- ▶ Gender variance and gender diversity are umbrella terms used to describe the wide range of gender identifications outside conventional gender categories.

Non-binary

- ▶ Non-binary is a lack of identification with conventional maleness or femaleness. Non-binary people may express features of both genders or neither.

Transman/transboy

- ▶ A person born phenotypically female (natal female), registered (assigned) female at birth, who identifies as male. Also known as female to male.

Transwoman/transgirl

- ▶ A person born phenotypically male (natal male), registered (assigned) male at birth, who identifies as female. Also known as male to female.

GnRH analogue

- ▶ GnRH analogue known colloquially as 'the blocker'. A longer acting version of the naturally occurring gonadotropin-releasing hormones (GnRH) such as triptorelin (Gonapeptyl Depot or Decapeptyl SR) used to prevent pituitary gonadotropin (follicle stimulating

Continued

Box 3 Continued

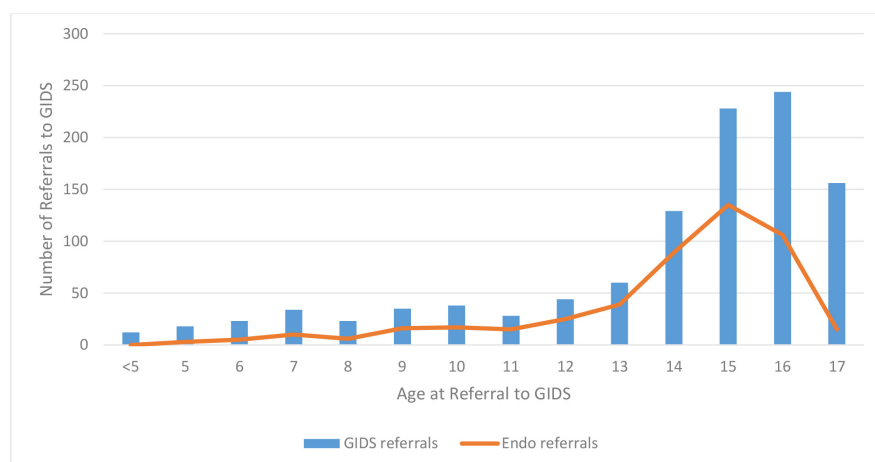
hormone FSH and luteinising hormone LH) secretion by competitive inhibition of the GnRH receptor.

Cross-sex hormones

- ▶ Cross-sex hormones (also known as gender-affirming hormones): physiological doses of testosterone in transboys and oestradiol in transgirls used to induce secondary sex changes associated with the gender of identification.

by the psychosocial team precedes medical involvement, and is aimed at understanding the young person's development and gender identification in the context of their family background and life experiences.⁸ It takes account of how they feel about their gender and their body now and in the past, the context in which the gender dysphoric feelings arose and intensified, how these feelings are being managed in everyday life, and what hopes are held for proceeding in the future. A range of psychometric measures are used to assess behavioural and emotional functioning, including features of autistic spectrum disorder and self-harm. Around 35% of referred young people present with moderate to severe autistic traits. The psychosocial assessment also explores the child's expectations of what will change if a social or physical transition is sought, as well as their understanding of the losses that may be incurred. With the adolescents, there is an indepth consideration of their sexuality and fertility, and possible preservation approaches are discussed. The attitude of important people in the child's life towards GD needs to be explored and understood. The child's mood and anxiety levels are evaluated. If there are concerns about self-harm or other kinds of risk, the local child and adolescent mental health service will be asked to provide further psychiatric and multidisciplinary input as appropriate.

The assessment period usually takes 6 months or more over a minimum of four to six sessions. At the end of the assessment, it may be possible to confirm or exclude a diagnosis of GD. Further treatment decisions are discussed with the family and agreed by the wider multidisciplinary team. One outcome may be to continue exploration of gender feelings and careful consideration of different developmental pathways and identity outcomes. A referral may also be made to the paediatric endocrinology



unless any specific clinical features determine this to be necessary.

Radiological assessments

Other diagnostic procedures employed in DSD evaluations were also routine in the GD clinic until recently. Transabdominal pelvic ultrasound scans were carried out in all phenotypic females, but between 2009 and 2013 only one congenital anomaly was found. Polycystic or multicystic ovaries were commonly seen, not necessarily associated with clinical or biochemical hyperandrogenism. Pelvic ultrasonography is therefore not required.

A bone age is routinely requested in a young person who has not completed puberty as it may be helpful for height prediction. The effect on adult height of the manipulation of the adolescent growth spurt using GnRHa and the induction of a second puberty with exogenous cross-sex hormones is not yet fully elucidated.

Bone densitometry is performed at the initial assessment and then annually until more information is known. The longer term effect of ablating sex hormone secretion is still under review, and preliminary reports from the Netherlands suggest that bone mineral content lost during treatment may not be fully recovered, although this may be dependent on the age at start of treatment. The longer term health consequences are unclear.^{12 13}

Endocrine assessments

Endocrine assessment of the reproductive axis of the birth-registered phenotypic male does not usually demonstrate any anomalies, sex hormone and gonadotropin concentrations merely reflecting the stage of puberty attained. A low testosterone may result from self-medication with antiandrogens such as spironolactone to alleviate the distress of progressive virilisation. Exogenously administered oestrogen may be detectable as an abnormal oestradiol:testosterone ratio in the serum, and on examination breast development may be present and the testes may be smaller than expected for the pubertal stage.

Figure 2 Numbers of young people presenting to the Gender Identity Development Service (GIDS) between 2010 and 2013 by age at initial referral (blue bars) and the proportion who had been referred on to the paediatric endocrinology clinics by 2017 (orange line).

team for consideration of puberty suspension with a gonadotropin-releasing hormone analogue (GnRHa) when the young person fulfils the minimum eligibility criteria, such as Tanner puberty stage 2.^{4 5 9} Once the paediatric team becomes involved, the child and family still continue regular sessions with their mental health clinician, and the two arms of the service work closely together. Following psychosocial assessment at the GIDS, on average 38%–40% of all clients attend the joint endocrine clinics, although this varies across the age range. Figure 2 highlights the age at which young people were referred to the GIDS, not the age at which they were referred to endocrinology (at a mean age of 14.4 years). The percentage referred at age 16 or 17 years is lower as many transition then to adult services to access physical treatment directly.

ASSESSMENTS IN PAEDIATRIC CARE

What is the correct approach when a young person questioning their gender is referred to the GIDS child and adolescent medical team? The increasing number of referrals and systematic data collection carried out since the GIDS was nationally commissioned in 2009 has allowed us to make some evidence-based evaluations of this process. Our current best practice is described in what follows. Even though the initial presentation of GD may be through paediatric services, a specialist psychological assessment should be requested before any physical treatment can be considered as the intervention itself can mask the adequacy of the evaluation.

Pubertal status

It is a requirement, according to the Endocrine Society and WPATH guidelines and UK service specifications, that a young person has commenced puberty before any intervention is agreed, as the GD may resolve once puberty commences.^{4 5} Figure 2 demonstrates the low absolute numbers and proportion of prepubertal children with persistent GD. Hence a clinical examination for pubertal staging is required unless confirmed as in the completing phase (eg, postmenarche from history). The majority of referrals to the GIDS and when referred on to the joint endocrine clinics in Leeds and London are postpubertal, two-thirds being over 15 years of age.

Karyotype

Initially the approach with GD was similar to that for disorder of sex development, with a karyotype being routinely requested. An audit of UK clinics from 2013 to 2015 (Table 1) revealed no differences from cytogenetic surveys of the UK newborn population and elsewhere.^{10 11} Therefore, routine karyotyping of a child or adolescent with GD is not required

Table 1 Karyotypes performed in young people attending GIDS England and Wales, and from Scotland and Northern Ireland (2009–2015), and frequencies of aneuploidy^{10 11}

46,XX	269		
46,XY	177		
Total	446		
New sex chromosome aneuploidies	47,XYY	GIDS: 1 in 446	Population: 1 in 426–523
New autosomal aneuploidies	46XX, t(7;13) (p21;q31)mos 47,XX,+mar[10]/46,XX[20]	GIDS: 1 in 223	Population: 1 in 138–164

GIDS, Gender Identity Development Service.

A search for sources of hyperandrogenism in adolescent birth-registered phenotypic females in an attempt to explain the dysphoria has not elucidated any differences from a control population selected from females of similar ages within the same department undergoing evaluation of the reproductive and adrenal axes. Neither basal nor stimulated adrenal androgens or testosterone was different between the GD or control populations. It therefore appears that GD is not associated with excess androgen production in postpubertal phenotypic females. Use of contraceptive pill/oral contraceptives to halt menstruation will show the expected hormone suppression.

Fertility preservation

The initiation of GnRHa therapy halts gonadotropin and gonadal sex hormone secretion, but also suspends gonocyte maturation. Oocytes remain dormant and spermatogenesis is halted. Young people and their families are routinely counselled about fertility loss resulting from the physical treatment. Various medical options are considered in case of a desire to revert to their birth gender in subsequent years after irreversible treatments have occurred, or in case assisted conception techniques might be called on in adult life to assist with starting a family. A referral to specialist fertility services is always offered in addition.^{14 15}

Phenotypic males are counselled about semen harvesting, which is possible once puberty is under way. By Tanner stage 3 ejaculation can take place. Even if the sperm count is low at that stage, there may be sufficient for preservation for future assisted conception. The dysphoria however may be too extreme to consider semen collection by masturbation. Electroejaculation may then be helpful.

The situation is more complex in phenotypic females. Prior to menarche, ovarian biopsy is possible but not routinely available at present. Mature oocyte harvesting post menarche requires the maturity to engage with gonadotropin pretreatment and transvaginal extraction. The access to reproductive services for transgender people is very patchy at present, and regional National Health Service (NHS) funding is not always available.

Some young people, whose primary objective is to halt the pubertal progress, will choose to postpone the fertility preservation decision until older. If they want to preserve fertility after having started GnRHa, it may take 6 months or more for the reproductive axis to recover, and

Box 4 Useful first-line investigations in a child or adolescent presenting with gender dysphoria

- ▶ Full blood count.
- ▶ Iron/ferritin.
- ▶ U&E, LFT. Renal and liver function tests
- ▶ Bone profile.
- ▶ Vitamin D.
- ▶ Testosterone.
- ▶ Oestradiol.
- ▶ Follicle stimulating hormone FSH and luteinising hormone LH.
- ▶ Prolactin.
- ▶ Bone age in premenarchal female to male or prepuberty/inpuberty male to female.
- ▶ Bone density scan.

the reproductive capacity will only be the same as at the point of starting blocker treatment. The need to stop the GnRHa in itself may be a barrier to pursuing gamete harvesting for some young people as endogenous sex hormone effects will return, although temporarily.

Recommended approach to initial investigations and monitoring of treatments

Investigations are purely required to evaluate adolescent health status and to measure baseline spontaneous gonadotropin and sex hormone production, as our search for genetic, endocrine and radiological diagnostic markers of a dysphoria-related state has proven negative. As reduction of sex hormone production in mid-adolescence to late adolescence may well have effects on reducing energy and psychological well-being, parameters such as full blood count, iron, vitamin D and thyroid status are important to ascertain (box 4). Bone mineralisation may be reduced on account of the GnRHa intervention; thus, bone density evaluation is currently recommended. Furthermore, since the effect of the blockade of sex hormones on the intensity, duration and outcome of the adolescent developmental process is still largely unknown, height, weight and body proportion estimation should be measured with regular bone age estimations.

PRIMARY INTERVENTION: GnRHa

In those whose GD is clearly established and long-standing and who have participated fully in the multidisciplinary assessment process at the GIDS, GnRHa is the recommended first-stage medical

intervention. This provides a physically reversible option to suspend sex hormone production, reduce the anxiety of ongoing physical development and allow further space for psychotherapeutic intervention and exploration.

This treatment is also requested in early pubertal children as a way to prevent the development of those unwanted bodily characteristics that may make 'passing' in the preferred sex difficult in later life (deep voice, facial hair and changes, breasts and so on) should this be their wish, and to render unnecessary certain surgical interventions such as mastectomy.

For children under 16, parents have the responsibility to agree to support any treatment (or not), with the clinicians determining the child's capacity to give consent, upholding the child's best interests in line with the UK General Medical Council guidance.¹⁶ Young people over 16 are deemed as having the capacity to give their own consent to treatment. For all young people there is a requirement that they are helped to develop an adequate understanding of what is to be offered—both its risks and benefits, and the alternatives to treatment. An age-related appreciation of the potential loss of biological fertility is also a prerequisite. In practice adolescents vary greatly in their level of maturity, and it is important, when clinicians have any concern about the capacity to consent, that the parent/carer be fully engaged to participate in the decision. If the parents or carers object to treatment, this poses a complex ethical and social challenge.

According to the WPATH and the recently updated Endocrine Society guidelines, GnRHa may be offered once an adolescent has demonstrated the first signs of physical puberty (Tanner stage 2 in either sex).^{4 5} This internationally endorsed approach stems from the fact that between 73% and 88% of children attending gender identity clinics who present prepubertally, whether they have socially transitioned or not, are likely not to continue with their intention of changing their gender once puberty has started.¹⁷ Some may 'desist' completely, with their initially perceived dysphoric feelings pointing towards developing homosexuality, while others may wish to pursue an expression of their gender identity which does not require medical intervention.

GnRHa is prescribed in standard doses for a minimum of a year before additional medical interventions can be considered. This is to allow further psychotherapeutic assessment to take place once the anxiety

and distress related to the progression in puberty and processes such as menstruation, erections and nocturnal emissions are reduced or stopped. All young people are counselled that GnRHa cannot be considered as a contraceptive, and that additional contraceptive methods should be used.

Psychological benefits of GnRHa treatment

Puberty suspension with GnRHa constitutes a treatment in its own right, meaning that it is not indicated purely as a preliminary stage before the next stage of treatment towards gender reassignment, namely gender-affirming cross-sex hormones.^{9 18} This puts a responsibility on the parents/carers, as well as clinicians in multidisciplinary teams, to try and ensure that time and opportunity are made for thoughtful and well-informed considerations of future options.

Most young people welcome the 'blocker' intervention as helping them to feel more comfortable in their bodies while holding future gender options open. However, our psychometric data suggest that although it permits further time for exploration, the impact on reducing psychological difficulties is limited. Further research is needed to determine whether GnRHa treatment is beneficial for young people of all ages, or whether some age groups may benefit more from this particular treatment than others, perhaps younger rather than older adolescents?

ELIGIBILITY FOR CROSS-SEX HORMONE/GENDER-AFFIRMING HORMONE TREATMENT

Cross-sex hormone treatment, currently referred to as gender-affirming hormone treatment (namely the induction of the opposite-biological sex puberty using testosterone in a phenotypic female and oestradiol in a phenotypic male), may be considered once full commitment to the preferred gender has been confirmed, and further detailed psychological exploration of the gender identity has been conducted. At the GIDS there are psychosocial criteria that need to be met, including that the young person shows some evidence of presenting coherently in the gender role with which they identify and that mental health difficulties are not escalating. Smoking and vaping are actively discouraged.

The capacity to give informed consent is an absolute requirement prior to commencing sex hormone treatment, ideally with the support of the parents,

although after 16 years of age the latter is not needed under the English, Welsh and Scottish law. It is acknowledged by the Endocrine Society that a young person under the age of 16 may not have sufficient psychological maturity to commit to such a lifelong and life-changing decision,⁵ and no evidence is available to understand the effects of giving gender-affirming hormone treatment before 16 years.⁴ A systematic review of the available evidence has been published recently by NHS England Clinical Commissioning Policy.¹⁹

Regimens for gender-affirming sex hormone treatment

Therapeutic regimens suggested for gender-affirming hormone treatment with testosterone or oestradiol reflect the process of the induction of puberty that is traditionally done in paediatric endocrine practice to ensure maximum benefit from the gradual introduction to sex hormones.^{5 20} The dose increase schedule is conducted more slowly in those who have never completed puberty in their birth sex to allow emotional and social maturation, as well as the completion of the adolescent growth spurt in height. Although physical changes are the goal from the young person's perspective, a gain in confidence is the most important marker of the success of treatment. Alterations in mood, including the development of irritability and anxiety, are risks of this treatment and are dose-dependent. However, despite the development of mood variations and anxiety, very few young people request to stop treatment at this stage.²¹ Fifty-five per cent of those seen initially at the GIDS and over 90% of those attending endocrinology clinics request further support from adult gender identity clinics. GnRHa is continued during feminisation in transgirls as it is difficult to suppress spontaneous testosterone production fully with exogenous oestrogen. It is usual to continue this dual therapy until gonadectomy or an alternative long-term solution is decided on. In transboys, once testosterone concentrations are elevated into the adult male range, GnRHa can be stopped as the recurrence of menses then is unlikely.

FURTHER SUPPORTIVE TREATMENTS

The GIDS is commissioned to look after young people up to the age of 18 years, after which referral may be offered by one of the currently nationally commissioned UK adult gender identity clinics. There, after further assessment, the treatment schedule will usually be reauthorised and the young

person may at their own request be referred for surgical interventions. This can include mastectomy, frequently requested by transboys, and gender affirmation surgery less often. Male-to-female feminising genitoplasty is a well-established procedure where the penoscrotal skin is refashioned to produce the vagina and labia with preservation of the glans and neurovascular bundle to form a clitoris capable of orgasm. Concern now exists that the early blockade of puberty may result in insufficient genital skin being available for this procedure.

Female-to-male surgery is more complex. Options include metoidioplasty, where the testosterone-enhanced clitoris is tubularised and a scrotum is constructed from the labia. In full male genital reconstruction, a penis can be formed from either abdominal, thigh or forearm skin flaps. A hydraulic implant is inserted in a newly fashioned scrotum to provide controllable erectile function. This approach requires several surgical procedures and leaves extensive scarring.

LONG-TERM OUTCOMES OF GD MANAGEMENT

In the UK, as yet there is little evidence of the longitudinal outcome from the GIDS. One published study showed that psychological support and puberty suppression were both associated with an improved global psychosocial functioning in adolescents with GD.²² One clear difficulty in tracking people is the frequent change in nominal and legal identity, including NHS number in those referred on to adult services and thus to date they have not been able to be followed up. The few longitudinal follow-up studies that have been published in the Netherlands have generally shown a high satisfaction outcome, particularly from those who have gone through surgical affirmation of their identified gender.^{23 24} These reported outcomes however are only from a highly selected group of fully dysphoric, well-adjusted individuals with few comorbidities and may not represent the full spectrum of gender diversity. Much further work needs to be done in this area.

ALTERNATIVE TREATMENTS WHICH CAN BE OFFERED TO A GENDER VARIANT OR NON-BINARY GENDER-IDENTIFYING PERSON

GD has typically been associated with a full identification with the opposite gender, and until recently a full social and legal transition was a requirement before receiving gender-affirming hormones. However, a significant number of young people are unsure of their eventual gender status or may retain feelings related to

their birth sex/gender as well as to their preferred gender, that is, a mixture of both. Non-binary gender identification is now increasingly encountered in clinical settings.

In some situations, simple management of the anxiety generated by birth-sex features in transboys such as menstruation with commonly used gynaecological treatments is a good solution. The combined contraceptive pill/oral contraceptives taken continuously with a break one to two times a year for a menstrual bleed, or a continuous progestogen such as norethisterone, may be prescribed. Depot progesterone implants, either subcutaneously or intrauterine, have variable success in halting menstruation. In young transgirls, alternative antiandrogen therapies such as spironolactone or cyproterone acetate are not recommended due to the high incidence of side effects and low efficacy, but topical treatments such as eflornithine cream (Vaniqa) may help to reduce unwanted facial and body hair growth.

CONCLUSION

The UK, along with other developed countries, is seeing an increase in the number of young people who are questioning their gender and taking the decision to pursue social and medical transition in line with their identified gender which may be non-binary. While professionals need to treat young people with respect and to acknowledge the intensity of their gender identification, much is still to be ascertained about the impact of medical intervention. The best practice in this field currently involves close collaborative working in multidisciplinary teams.

Acknowledgements The authors thank all the staff of the GIDS.

Collaborators Kirpal Adu-Gyamfi, Caroline Brain, Claire Goedhart, Sara Kleczewski, Elaine Perkins, Tiffani Rees, Alice Roberts and Russell Viner from University College London NHS Trust; Sabah Alvi, Bindu Avatpalle, Paul Carruthers, Talat Mushtaq and Jenny Walker from Leeds Children's Hospital, Leeds Teaching Hospitals NHS Trust; and Noina Abid from Belfast's Royal Hospital for Sick Children and Guftar Shaikh from Royal Hospital for Sick Children, Glasgow for also contributing karyotype results.

Contributors GB conceived the idea, analysed the biological data and wrote the paediatric medical sections. NDG analysed the demographic and psychological data and cowrote those sections with BW. PC has had significant input to the final document.

Competing interests None declared.

Provenance and peer review Commissioned; internally peer reviewed.

© Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.



To cite Butler G, De Graaf N, Wren B, et al. *Arch Dis Child* 2018;**103**:631–636.

Received 16 February 2018
Revised 13 March 2018
Accepted 18 March 2018
Published Online First 12 April 2018
Arch Dis Child 2018;**103**:631–636.
doi:10.1136/archdischild-2018-314992

REFERENCES

- Aitken M, Steensma TD, Blanchard R, et al. Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. *J Sex Med* 2015;**12**:756–63.
- Zucker KJ, Lawrence AA. Epidemiology of gender identity disorder: recommendations for the standards of care of the world professional association for transgender health. *Int J Transgend* 2009;**11**:8–18.
- NHS England. NHS standard contract for gender identity development service for children and adolescents. <https://www.england.nhs.uk/wp-content/uploads/2017/04/gender-development-service-children-adolescents.pdf>
- Coleman E, Bockting W, Botzer M, et al. Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *Int J Transgend* 2012;**13**:165–232.
- Hembree WC, Cohen-Kettenis PT, Gooren L, et al. Endocrine treatment of gender-dysphoric/gender-incongruent persons: an endocrine society* clinical practice guideline. *J Clin Endocrinol Metab* 2017;**102**:3869–903.
- American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM–5). 2013.
- Richards C, Bouman WP, Seal L, et al. Non-binary or genderqueer genders. *Internat Rev Psych* 2016;**28**:95–102.
- Di Ceglie D. Gender identity disorder in young people. *Adv Psych Treatment* 2000;**6**:458–66.
- Deleamarre-van de Waal HA, Cohen-Kettenis PT. Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects. *Eur J Endocrinol* 2006;**155**:131–137.
- Jacobs PA, Browne C, Gregson N, et al. Estimates of the frequency of chromosome abnormalities detectable in unselected newborns using moderate levels of banding. *J Med Genet* 1992;**29**:103–8.
- Nielsen J, Wohler M. Sex chromosome abnormalities found among 34,910 newborn children: results from a 13-year incidence study in Aarhus, Denmark. *Birth Defects Orig Artic Ser* 1990;**26**:209–23.
- Klink D, Caris M, Heijboer A, et al. Bone mass in young adulthood following gonadotropin-releasing hormone analog treatment and cross-sex hormone treatment in adolescents with gender dysphoria. *J Clin Endocrinol Metab* 2015;**100**:E270–75.
- Vlot MC, Klink DT, den Heijer M, et al. Effect of pubertal suppression and cross-sex hormone therapy on bone turnover markers and bone mineral apparent density (BMAD) in transgender adolescents. *Bone* 2017;**95**:11–19.
- Finlayson C, Johnson EK, Chen D, et al. Proceedings of the working group session on fertility preservation for individuals with gender and sex diversity. *Transgend Health* 2016;**1**:99–107.
- Nahata L, Tishelman AC, Caltabellotta NM, et al. Low fertility preservation utilization among transgender youth. *J Adolesc Health* 2017;**61**:40–4.
- The duties of a doctor registered with the General Medical Council. https://www.gmc-uk.org/0_18_years_English_1015.pdf_48903188.pdf
- Wallien MS, Cohen-Kettenis PT. Psychosexual outcome of gender-dysphoric children. *J Am Acad Child Adolesc Psychiatry* 2008;**47**:1413–23.
- Cohen-Kettenis PT, Steensma TD, de Vries AL. Treatment of adolescents with gender dysphoria in the Netherlands. *Child Adol Psych Clinics* 2011;**20**:689–700.
- Clinical commissioning policy: prescribing of cross-sex hormones as part of the gender identity development service for children and adolescents. <https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/2016/08/clinical-com-pol-16046p.pdf>
- de Vries AL, Cohen-Kettenis PT. Clinical management of gender dysphoria in children and adolescents: the Dutch approach. *J Homosex* 2012;**59**:301–20.
- Vrouenraets LJ, Fredriks AM, Hannema SE, et al. Perceptions of Sex, Gender, and Puberty Suppression: A Qualitative Analysis of Transgender Youth. *Arch Sex Behav* 2016;**45**:1697–703.
- Costa R, Dunsford M, Skagerberg E, et al. Psychosocial functioning in adolescents with gender dysphoria. *J Sex Med* 2015;**12**:2206–14.
- de Vries AL, Steensma TD, Doreleijers TA, et al. Puberty suppression in adolescents with gender identity disorder: a prospective follow-up study. *J Sex Med* 2011;**8**:2276–83.
- de Vries AL, McGuire JK, Steensma TD, et al. Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics* 2014;**134**:696–704.

ACADEMIA

Accelerating the world's research.

Increased Gender Variance in Autism Spectrum Disorders and Attention Deficit Hyperactivity Disorder

Graciela Slesaranskypoe


Archives of Sexual Behavior

Cite this paper

Downloaded from [Academia.edu](#) 

[Get the citation in MLA, APA, or Chicago styles](#)

Related papers

[Download a PDF Pack](#) of the best related papers 



[Puberty Suppression in Adolescents With Gender Identity Disorder: A Prospective Follow-Up S...](#)
Annelou de Vries

[Psychiatric Comorbidity Among Children With Gender Identity Disorder](#)
Hanna Swaab

[A Developmental, Biopsychosocial Model for the Treatment of Children with Gender Identity Disorder](#)
Karen Meszaros

Increased Gender Variance in Autism Spectrum Disorders and Attention Deficit Hyperactivity Disorder

John F. Strang · Lauren Kenworthy · Aleksandra Dominska · Jennifer Sokoloff ·
Laura E. Kenealy · Madison Berl · Karin Walsh · Edgardo Menvielle ·
Graciela Slesaransky-Poe · Kyung-Eun Kim · Caroline Luong-Tran ·
Haley Meagher · Gregory L. Wallace

Received: 1 April 2013 / Revised: 26 October 2013 / Accepted: 1 January 2014
© Springer Science+Business Media New York (outside the USA) 2014

Abstract Evidence suggests over-representation of autism spectrum disorders (ASDs) and behavioral difficulties among people referred for gender issues, but rates of the wish to be the other gender (gender variance) among different neurodevelopmental disorders are unknown. This chart review study explored rates of gender variance as reported by parents on the Child Behavior Checklist (CBCL) in children with different neurodevelopmental disorders: ASD ($N = 147$, 24 females and 123 males), attention deficit hyperactivity disorder (ADHD; $N = 126$, 38 females and 88 males), or a medical neurodevelopmental disorder ($N = 116$, 57 females and 59 males), were compared with two non-referred groups [control sample ($N = 165$, 61 females and 104 males) and non-referred participants in the CBCL standardization sample ($N = 1,605$, 754 females and 851 males)]. Significantly greater proportions of participants with ASD (5.4 %) or ADHD (4.8 %) had parent

reported gender variance than in the combined medical group (1.7 %) or non-referred comparison groups (0–0.7 %). As compared to non-referred comparisons, participants with ASD were 7.59 times more likely to express gender variance; participants with ADHD were 6.64 times more likely to express gender variance. The medical neurodevelopmental disorder group did not differ from non-referred samples in likelihood to express gender variance. Gender variance was related to elevated emotional symptoms in ADHD, but not in ASD. After accounting for sex ratio differences between the neurodevelopmental disorder and non-referred comparison groups, gender variance occurred equally in females and males.

Keywords Gender variance · Gender identity · Autism · Attention deficit hyperactivity disorder · Gender dysphoria

J. F. Strang (✉) · L. Kenworthy · J. Sokoloff · C. Luong-Tran ·
H. Meagher
Center for Autism Spectrum Disorders, Children's National
Medical Center, 15245 Shady Grove Road, Suite 350, Rockville,
MD 20850, USA
e-mail: jstrang@cnmc.org

A. Dominska · L. E. Kenealy · M. Berl · K. Walsh
Division of Neuropsychology, Children's National Medical
Center, Rockville, MD, USA

E. Menvielle · K.-E. Kim
Department of Psychiatry, Children's National Medical Center,
Washington, DC, USA

G. Slesaransky-Poe
School of Education, Arcadia University, Glenside, PA, USA

G. L. Wallace
Laboratory of Brain and Cognition, National Institute of Mental
Health, Bethesda, MD, USA

Introduction

Gender variance in children and adolescents is an area of increased inquiry by both clinicians and researchers with the advent of gender identity clinics in several major academic medical centers as well as increased media coverage (Drescher & Byne, 2012). Terminology in the field of psychiatry is in flux for describing children and youth whose personal sense of gender identity does not conform with their outward biological body (e.g., a boy who wishes to be a girl or vice versa). The term “gender variance” is used in a range of contexts, but in this article we use the term to refer specifically to a child's wish to be the other gender. There are various approaches for managing the challenges resulting from gender variance, with some clinics working to foster the adaptation and adjustment of the child by providing family support and helping a family problem-solve the complexities of daily life, especially school (Menvielle, 2012). Another approach suggests that because many gender variant

children will not choose to transition gender later in life or identify as transgendered, a focus of treatment should be on helping these children become comfortable with their current bodies, if this is possible (as described in Dreger, 2009). Most approaches follow a child over a period of years to monitor gender identity development. When gender variance persists over an extended period of time and reaches clinical levels in which a child experiences significant dysphoria regarding his/her birth gender and a persistent wish to transition to the other gender, medical support for gender transition or puberty suspension may occur through use of hormones and/or hormone blockers (de Vries & Cohen-Kettenis, 2012). The diagnostic terms used to describe this condition are gender identity disorder (GID) (American Psychiatric Association, 2000) or gender dysphoria (American Psychiatric Association, 2013).

Navigating a child's gender variance is often complex for children and families and the presence of neurodevelopmental disorders makes diagnostics, coping, and adaptation more challenging (Menvielle, 2012). Clinical observations suggest an over-representation of gender variant clients with comorbid autism spectrum disorders (ASD) (Edwards-Leeper & Spack, 2012). de Vries, Noens, Cohen-Kettenis, Van Berckelaer-Onnes, and Doreleijers (2010) reported seven separately published case studies (Gallucci, Hackerman, & Schmidt, 2005; Kraemer, Delsignore, Gundelfinger, Schnyder, & Hepp, 2005; Landen & Rasmussen, 1997; Mukaddes, 2002; Perera, Gadambanathan, & Weerasiri, 2003; Tateno, Tateno, & Saito, 2008; Williams, Allard, & Sears, 1996) representing nine individuals with comorbid gender variance and ASD, and a range of ages and nationalities. Another study indicates increased autistic mannerisms among a sample of gender dysphoric children, as measured by the Social Responsiveness Scale (Constantino & Gruber, 2005) (Wood, 2011, as reported in Zucker, Wood, & VanderLaan, 2014). Increased obsessive interests in gender variant children are also reported in a separate study from the same research group (VanderLaan et al., 2014).

In their own Dutch sample, de Vries et al. (2010) found a significant over-representation of ASD diagnoses among children and adolescents referred for GID/gender dysphoria: 7.8 % of their child and adolescent gender clients met full criteria for an ASD according to DSM IV-TR diagnostics (American Psychiatric Association, 2000). The incidence was higher among adolescents, with 9.4 % of their adolescent gender identity referrals meeting criteria for an ASD. It was noted that such an incidence of comorbid GID/gender dysphoria-related issues and ASD would be unlikely to occur by chance, as the presence of ASD alone among children in the general population is about 0.6–1 % (Baird et al., 2006; Fombonne, 2005). It was also suggested that the actual incidence of ASD in their gender identity clinic sample was probably higher than 7.8 %, noting that some gender client referrals did not complete their ASD diagnostics because of severe behavioral symptoms and that strict adherence to autism cut-offs for diagnostic instruments caused some

children with apparent higher functioning ASD to be labeled non-autistic. The comorbidity of GID/gender dysphoria-related issues and ASD occurs in both males and females, as of the eight case studies cited by de Vries et al. (2010) and in their own sample, one-third was female. The proportion of males to females should be considered in the context of ASD gender ratios, where there is an over-representation of males (Center for Disease Control and Prevention [CDC], 2012).

The Child Behavior Checklist (CBCL) (Achenbach & Rescorla, 2001), one of the most commonly used behavioral report inventories for children, has item-level data assessing gender variance. Two major international gender identity clinics have found strong correlations between clinical gender identity diagnosis and endorsement of gender variance-related CBCL items (Cohen-Kettenis, Owen, Kaijser, Bradley, & Zucker, 2003). In 130 children from the Utrecht Gender Clinic in The Netherlands and 358 children from the Toronto Child and Adolescent Gender Identity Clinic, Cohen-Kettenis et al. reported that CBCL gender variance item-level data were sensitive and specific to those children who had been diagnosed with GID by rigorous interview and history taking. Notably, there was a relationship between the raw scores on the gender variance-related CBCL item-level data and the intensity of GID symptoms, with highest raw scores on the CBCL associated with children who met complete criteria for GID and lower CBCL raw scores for children who met partial GID criteria.

Gender variance-related CBCL item-level data have also been utilized in a large twin study examining genetic and environmental influences on cross-gender behaviors (behaviors typical of the other gender). Among approximately 22,500 7 and 10 year-old twins in The Netherlands (Van Beijsterveldt, Hudziak, & Boomsma, 2006), elevations in gender variance-related CBCL data were found to be highly heritable, with significantly greater concordance of these CBCL items in monozygotic twin pairs than in dizygotic twins. It was also noted that there were relationships between gender variance and increased CBCL internalizing and externalizing problems.

Other studies have found that young people with gender variance have increased anxiety (Wallien, Swaab, & Cohen-Kettenis, 2007; Wallien, van Goozen, & Cohen-Kettenis, 2007) as well as other psychiatric and behavioral difficulties (e.g., Coates & Peterson, 1985; Lai, Chiu, Gadow, Gau, & Hwu, 2010; Zucker et al., 2012; Zucker, Owen, Bradley, & Ameeriar, 2002), which has been attributed by some to stress over the lack of congruity between gender identity and body (de Vries, Doreleijers, Steensma, & Cohen-Kettenis, 2011), as well as social pressures against gender nonconformity (Cohen-Kettenis et al., 2003). Issues are more complex in children with comorbid gender variance and ASD, as children with ASD are less aware of social information (American Psychiatric Association, 2000). We have observed clinically that many children who have comorbid ASD and gender variance are less aware of the social prejudice and societal pressures against expression of gender nonconformity. Clinically, they often appear less anxious and dysphoric about

their gender variance, at least from the perspective of how others might judge them.

Whereas previous reports have focused on the presence of ASD among child and adolescent gender identity clinic referrals, this study explored rates of gender variance among children with different neurodevelopmental disorders, as well as non-referred comparison groups. Bedard, Zhang, and Zucker (2010) showed high rates of gender identity issues among a small sample of mixed developmental disorders (12.5 %), but sample size limited the opportunity to compare rates among different developmental disabilities. The current study proceeds from the following hypotheses:

1. In agreement with prior findings (de Vries et al., 2010; Gallucci et al., 2005; Kraemer et al., 2005; Landen & Rasmussen, 1997; Mukaddes, 2002; Perera et al., 2003; Tateno et al., 2008; Williams et al., 1996), we expected to find elevated rates of gender variance among children with a confirmed diagnosis of ASD, but not among clinical comparison groups of participants with attention deficit hyperactivity disorder (ADHD), medical neurodevelopmental conditions, or typically developing control children.
2. Given evidence that children and adolescents with gender variance have increased emotional symptoms (e.g., Wallien et al., 2007a), we predicted that, among the participants with neurodevelopmental disorders, rates of emotional symptoms would be elevated for those with gender variance when compared to those without gender variance.
3. The relationship between gender variance and increased anxiety will be less pronounced among children with ASDs compared to those with other neurodevelopmental disorders or typically developing control children.
4. Previous findings have suggested similar ratios of males and females with comorbid GID/gender dysphoria-related issues and ASD (e.g., de Vries et al., 2010) after accounting for underlying over-representation of male gender in ASD. We predicted that, after accounting for underlying sex ratios in the different comparison groups, the ratio of boys to girls with gender variance between the groups of neurodevelopmental disorders and controls will be similar.

Method

Participants

The children and adolescents (ages 6–18 years) who participated in this study were either typically developing controls ($N = 165$, 61 females and 104 males) or had one of four neurodevelopmental disorders: an ASD ($N = 147$, 24 females and 123 males), ADHD ($N = 126$, 38 females and 88 males), or a medical neurodevelopmental disorder [epilepsy ($N = 62$, 28 females and 34 males) or neurofibromatosis 1 ($N = 54$, 29

females and 25 males)]. Our clinical samples were obtained from a comprehensive chart review. All available clinical charts from our hospital-based pediatric neuropsychology program database were reviewed by faculty-level clinical neuropsychologists and children and adolescents who met diagnostic criteria for one of the conditions were included in the study. Our hospital serves a broad range of children and families in the Washington, DC metro area. The criteria for inclusion in the study were: (1) initial diagnosis made by the clinical pediatric neuropsychologist (ASD or ADHD) or neurologist (epilepsy or NF1) at the time of the child's evaluation based on parent and child interview, review of history, gold-standard neuropsychological/diagnostic measures (see below), and DSM-IV-TR (ASD and ADHD) or ICD 9 (epilepsy and NF 1) diagnostic criteria and (2) review of initial clinical diagnosis and diagnostic measure cut-offs by a clinical pediatric neuropsychologist during chart review for this study (e.g., ADOS and ADI scores for ASD and DSM-IV-TR symptom reports for ADHD). All assessments occurred at the time of the original evaluation. No IQ limits were set for exclusion in this study. Children referred by the hospital's gender identity clinic were not included.

Participants with an ASD were diagnosed based on expert clinical impression using the DSM-IV-TR. All ASD participants met criteria for a "broad ASD" on the Autism Diagnostic Interview (ADI) or Autism Diagnostic Interview-Revised (ADI-R) (Le Couteur et al., 1989; Lord, Rutter, & Le Couteur, 1994) and/or the Autism Diagnostic Observation Schedule (ADOS) (Lord, Rutter, DiLavore, & Risi, 2000) according to the criteria established by the National Institute of Child Health and Human Development (NICHD) and the National Institute on Deafness and Other Communication Disorders (NIDCD) Collaborative Programs for Excellence in Autism (Lainhart et al., 2006).

Participants with ADHD were diagnosed based on a comprehensive diagnostic assessment which included clinical neuropsychological evaluation, family interview, and teacher informant reports by an expert clinical neuropsychologist with 12 years of experience diagnosing ADHD (L.E.K). Participants with ASD or ADHD were excluded if they had a known genetic or neurological disorder. Children with epilepsy were diagnosed by a neurologist based on clinical features, neurologic examination, ictal video-EEG, and high resolution epilepsy protocol MRI. Children with neurofibromatosis 1 (NF1) were diagnosed by a neurologist according to the National Institute of Health (NIH) standard for diagnosing NFI (Gutmann et al., 1997; Wolkenstein, Freche, Zeller, & Revuz, 1996). This NIH NF1 diagnostic standard requires that a child have two or more of the following features: (1) six or more café au lait macules (over 5 mm in greatest diameter in prepubertal individuals and over 15 mm in greatest diameter in postpubertal individuals); (2) two or more neurofibromas of any type or one plexiform neurofibroma; (3) freckling in the axillary or inguinal regions; (4) optic glioma; (5) two or more Lisch nodules; (6) a distinctive osseous lesion such as sphenoid dysplasia or thinning of long bone cortex with or without

Table 1 Demographic characteristics of participants

	Age (years)			Sex (<i>N</i> and %)		FSIQ		
	<i>M</i>	<i>SD</i>	Range	Female	Male	<i>M</i>	<i>SD</i>	Range
Controls (<i>N</i> = 165)	11.87	3.31	6–18	61 (37 %)	104 (63 %)	117.36	13.86	81–156
CBCL normative sample (<i>N</i> = 1,605)	11.74	3.44	6–18	754 (47 %)	851 (53 %)	–	–	–
Epilepsy/NF1 (<i>N</i> = 116)	10.12	2.88	6–17	56 (49 %)	60 (51 %)	96.97	15.89	64–139
ADHD (<i>N</i> = 126)	9.77	2.95	6–17	38 (30 %)	88 (70 %)	109.27	15.94	78–156
ASD (<i>N</i> = 147)	12.21	3.08	7–18	24 (16 %)	123 (84 %)	107.88	19.95	40–149

FSIQ Full-scale Intelligence Quotient

pseudoarthrosis; (7) a first-degree relative (parent or sibling) with NF1 by the above criteria.

Controls were recruited from the community through announcements in local periodicals and outreach to local children's programs. They were screened for the presence of neurodevelopmental, psychiatric, learning, and neurologic disorders and none were taking psychiatric medication. Data were obtained as part of an IRB approved protocol and informed consent and/or assent (depending on age) were obtained for all participants. For minors (under 18), parents provided consent, while for adults (age 18), consent was obtained from the participant. In addition to our group of controls, we obtained normative data from the non-referred standardization sample of the CBCL (*N* = 1,605), including item-level data and basic demographics (Achenbach & Rescorla, 2001). Participant characteristics are shown in Table 1. Compared to controls and the non-referred CBCL group, participants with Epilepsy/NF1 or ADHD were younger ($t_s > 4.65, p_s < .001$ and $t_s > 5.75, p < .001$). Compared to local controls and the non-referred CBCL group, there were significantly more males in the ASD group ($\chi^2_s > 16.43, p < .001$). Similarly, there were more males in the ADHD group than the CBCL non-referred group. There were more females in the Epilepsy/NF1 group than in the local control group ($\chi^2 = 14.30, p < .001$). Compared to local controls, all neurodevelopmental groups had lower mean Full Scale IQ ($t_s > 4.59, p_s < .001$).

Measures

Cognitive Abilities

Measures of general intellectual functioning were included in this study to provide characterization of the sample, including differences between the groups. Intellectual functioning (Full Scale IQ) was measured with the Wechsler Intelligence Scale for Children-Third Edition, Wechsler Intelligence Scale for Children-Fourth Edition, Wechsler Adult Intelligence Scale-Third Edition, Wechsler Adult Intelligence Scale-Fourth Edition, Wechsler Preschool and Primary Scale of Intelligence-Third Edition, Wechsler Abbreviated Scale of Intelligence, the Differential Ability Scales-Second Edition, or the Reynolds Intellectual Assessment Scales, depending on the age and time period in

which the child was assessed. A total of 460 of 554 study participants received IQ measures, representing 83 % of the sample.

Gender Variance

The wish to be the other gender was assessed with the CBCL for ages 6–18 years (Achenbach & Rescorla, 2001). The CBCL is a standardized parent report questionnaire of child/adolescent behavioral and emotional functioning. Gender variance was assessed using CBCL gender variance-related item-level data, a method established in two studies of GID/gender dysphoria in children and adolescents (Cohen-Kettenis et al., 2003; Van Beijsterveldt et al., 2006; Zucker et al., 2012). CBCL item 110, "Wishes to be the opposite sex" was reported by the parents with levels of "never," "sometimes," and "often." Two groups were formed for the analyses: those with no wish to be the other gender ("never") and those who "sometimes" or "often" wished to be the other gender.

Emotional Symptoms

Emotional symptoms were assessed with the CBCL domain scores, including the Anxious/Depressed and the Withdrawn/Depressed scales (Achenbach & Rescorla, 2001). Scores are presented as standardized *T* scores ($M = 50, SD = 10$), with cutoffs for the borderline clinical range ($64 < T < 70$) and clinical range ($T \geq 70$). Higher scores are indicative of greater problems.

Autism Diagnostics

Autism symptoms were assessed through the ADI/ADI-R and the ADOS. The ADI/ADI-R (Le Couteur et al., 1989; Lord et al., 1994) is a detailed parent or primary caregiver interview of developmental history and autism symptoms. Scores are aggregated into symptom clusters that correspond to *DSM-IV-TR* criteria for a diagnosis of autism. The ADOS (Lord et al., 2000) is a structured play and conversational interview that includes a series of social demands and other opportunities to elicit symptoms of an ASD. Scores for each domain are tallied and presented as non-standardized raw scores. Higher scores are indicative of more autism

symptoms. The ADOS is the most widely-used gold-standard measure of in vivo autism symptomatology.

Data Analysis

To test Hypothesis 1, which examined rates of gender variance among groups, we calculated the percent endorsement of gender variance, as measured by the CBCL, as well as the odds ratios for the presence of gender variance in each neurodevelopmental disorder group as compared to the controls and non-referred subjects in the CBCL standardization sample. We calculated the confidence intervals for these odds ratios, as well as the *p*-values, indicating the level of significance of the odds ratio differences (Bland & Altman, 2000).

To test Hypothesis 2, two-tailed *t*-tests were employed to evaluate differences in mean Anxious/Depressed and Withdrawn/Depressed CBCL *T*-scores between neurodevelopmental disorder participants with and without gender variance. To test Hypothesis 3, which predicted that children with concurrent gender variance and ASD would have fewer reported emotional symptoms than children with gender variance and a non-ASD neurodevelopmental disorder, we conducted a regression with ASD status (ASD or no ASD) and gender variance status (gender variance or no gender variance) as predictors of CBCL anxious/depressed ratings. We included the interaction term of ASD status X gender variance status to explore the possible different relationships with anxiety/depression between the groups. Post-hoc two-tailed *t*-tests were used to evaluate differences in mean anxious/depressed scores between ASD children with and without gender variance and non-ASD children with neurodevelopmental disorders with and without gender variance.

Hypothesis 4 sought to examine sex ratios of participants with gender variance. As would be expected given the higher incidence of males to females in ASD (CDC, 2012) and ADHD (Arnold, 1996), there were significant differences in overall sex ratios between our groups. In order to be able to compare the sex ratios (percent male to female) of participants with gender variance between the neurodevelopmental disorder and CBCL non-referred groups, we equalized the sex ratios in the CBCL non-referred group to match those of the ASD and ADHD groups. This was accomplished by randomly removing female subjects from the CBCL non-referred group until the sex ratio matched that of our neurodevelopmental disorder groups. Due to the small number of epilepsy and NF1 participants with gender variance (*N* = 2), they were not included in the analyses. The sex ratios of participants with ADHD were then compared to those of the CBCL non-referred group (with equalized sex ratio) using a two-tailed Lancaster's mid-*p* test [a robust method for use with small numbers of subjects (Biddle & Morris, 2011)]. The same test was used to compare the sex ratios of participants with ASD and the CBCL non-referred sample.

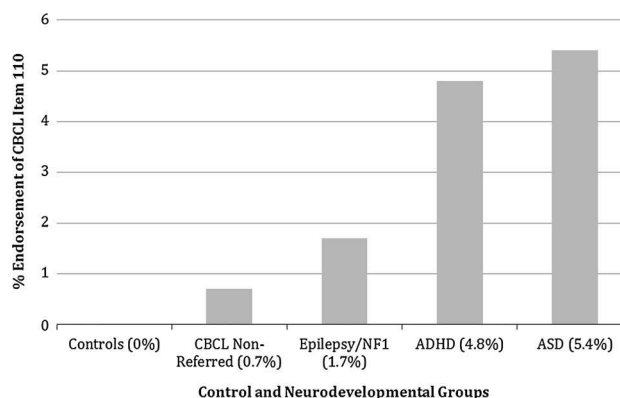


Fig. 1 Percent endorsement of wish to be other gender among neurodevelopmental disorder groups and controls

Results

Hypothesis 1: Rates of Gender Variance Among Groups

Percentages of endorsement of gender variance among the five groups are shown in Fig. 1. Gender variance was endorsed by parents in 0 % of local control participants, 0.7 % of non-referred control participants from the CBCL standardization sample, 1.7 % of participants with a medical neurodevelopmental condition (epilepsy or NF1), 4.8 % of participants with ADHD, and 5.4 % of participants with an ASD. As compared to CBCL non-referred controls, participants with an ASD were 7.59 times more likely to have gender variance, which was a statistically significant difference (see Table 2). Contrary to our hypothesis, ADHD participants also showed statistically significant elevation of gender variance compared to non-referred controls, with gender variance 6.64 times more likely among children with ADHD than CBCL non-referred controls. Participants with a medical neurodevelopmental disorder (i.e., epilepsy and NF1) did not show greater endorsement of gender variance compared to controls.

Hypothesis 2: Emotional Symptoms in Participants with Gender Variance

As hypothesized, children with comorbid neurodevelopmental disorders and gender variance showed increased rates of emotional symptoms as compared to children with neurodevelopmental disorders and no reported gender variance (see Table 3). Children with comorbid neurodevelopmental disorders and gender variance had borderline clinical range levels of parent reported anxiety and depression. They did not differ from other children with neurodevelopmental disorders and no comorbid gender variance in terms of age, or IQ, and no sex ratio differences were found between the groups.

Table 2 Odds ratios for endorsement of the wish to be the other gender between each of the neurodevelopmental disorder groups and the two non-referred control groups

	CBCL non-referred controls			Local controls ^a	
	Odds ratio	95 % CI	<i>p</i>	95 % CI	<i>p</i>
Epilepsy/ NF1	0.52	0.10–10.53	ns	0.68–190.78	.091
ADHD	6.64	2.45–17.995	<.001*	2.06–53.47	.005*
ASD	7.59	3.05–18.87	<.001*	2.14–35.42	.003*

^a Peto odds ratio confidence intervals calculated for sample controls to account for zero endorsement of CBCL item 110 among sample control participants

Table 3 Comparison of emotional ratings, age, and IQ in neurodevelopmental disorder participants with and without the wish to be the other gender

	Wants to be other gender (<i>n</i> = 16)		Does not want to be other gender (<i>n</i> = 373)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
CBCL (<i>T</i> score) anxious/depressed	65.3	12.3	58.8	8.9	2.83	.005*
CBCL (<i>T</i> score) withdrawn/depressed	66.1	7.5	59.7	9.2	2.78	.006*
Age	10.7	2.8	10.8	3.2	<1	ns
IQ	102.9	16.3	105.2	18.4	<1	ns

The proportion for the sex ratio of participants who want to be the other gender was 43.8 % female and 56.2 % male. The sex ratio for participants who did not want to be the other gender was 30.0 % female and 70.0 % male. These proportions were not statistically different, χ^2 (1, *N* = 389) = 1.36

Hypothesis 3: Fewer Emotional Symptoms Among Children with ASDs and Gender Variance

When testing the hypothesis that children with concurrent gender variance and ASD would have fewer reported emotional symptoms than children with gender variance and a non-ASD neurodevelopmental disorder, the overall model was significant, $F(3, 382) = 5.97, p = .001$. There was a main effect for gender variance status, $F(1, 382) = 7.41, p = .007$, as well as for the interaction (ASD status X gender variance status), $F(1, 382) = 4.70, p = .031$. Post-hoc tests showed no significant difference in anxious/depressed ratings between ASD children with and without gender variance ($t < 1$). Anxious/depressed ratings were higher among non-ASD children with neurodevelopmental issues and concurrent gender variance as compared to those with a non-ASD neurodevelopmental disorder and no gender variance ($t = -3.66, p < .001$). Mean anxious/depressed scores were at the high end of the borderline clinical range ($T = 69$) for participants

with a comorbid non-ASD neurodevelopmental disorder and gender variance, while mean anxious/depressed scores fell in the non-clinical range for participants with comorbid ASD and gender variance ($T = 61.63$).

Hypothesis 4: Sex Ratios of Participants with Gender Variance

Given the unequal male to female ratio inherent in ASDs and ADHD, we needed to adjust the base rate sex ratios of the CBCL non-referred group in order make comparisons with the participants in these two groups. This was accomplished by taking the male to female ratios in the ASD and ADHD groups and creating a new CBCL sample by randomly removing females in the CBCL non-referred sample until the male to female ratio matched that of the ASD and ADHD samples. After equalizing these base rate sex ratios, we found no significant differences in sex ratios of participants with gender variance and ADHD as compared to the CBCL non-referred comparison sample subjects with gender variance. We also found no significant sex ratio differences between the participants with gender variance and ASD and the CBCL non-referred subjects with gender variance. This process was repeated three times with no change in outcome.

Discussion

In the first study to compare the occurrence of wishing to be the other gender (gender variance) among children and adolescents with different neurodevelopmental disorders relative to non-referred control groups, we found participants with ASD to have significantly elevated rates of gender variance. Gender variance was 7.59 times more common in participants with ASD than in a large non-referred comparison group. This extends previous reports of an over-representation of ASD among children and adolescents referred for GID/gender variance (de Vries et al., 2010; Edwards-Leeper & Spack, 2012) by examining the overlap between ASD and gender variance among a group of children with ASDs. Surprisingly, we also found a significant over-representation of gender variance among participants with ADHD, with gender variance occurring 6.64 times more frequently among participants with ADHD than a non-referred comparison group. This is the first report of an overlap between ADHD diagnosis and comorbid gender variance, though previous studies have shown increased levels of behavioral problems and/or disruptive disorders among young people with gender variance (Cohen-Kettenis et al., 2003; de Vries et al., 2011; Wallien et al., 2007a; Zucker et al., 2002; Zucker & Bradley, 1995; Zucker et al., 2014). Our mixed medically-based neurodevelopmental group of participants with epilepsy or NF1 was not different from non-referred controls in rates of gender variance. Although rates of gender variance were several times higher in the ASD and ADHD groups, only about 5 % of the participants in these groups had parent reported gender

variance on the CBCL. It is important to note that endorsement of the CBCL gender variance item level data does not imply a diagnosis of GID/gender dysphoria.

Building on previous studies reporting increased emotional symptoms among children and adolescents with GID/gender variance-related issues (de Vries et al., 2011; Wallien et al., 2007b), we found elevated rates of anxiety and depression symptoms (with mean scores in the borderline clinical range) among participants with comorbid neurodevelopmental disorders and gender variance as compared to participants with a neurodevelopmental disorder and no reported gender variance. Importantly, when comparing between the neurodevelopmental groups with comorbid gender variance, increased emotional symptoms were observed in the non-ASD neurodevelopmental groups, but not among participants with ASD. This could be due to reduced awareness of the societal pressures against gender nonconformity among gender nonconforming individuals with ASD, as ASD is a disorder characterized by social cognitive impairments. There were no significant differences in the ratio of male participants with gender variance compared to female participants with gender variance when comparing between the different neurodevelopmental disorder groups. Comorbid gender variance and neurodevelopmental disorders occurred in both males and females.

The coincidence of gender variance with ADHD and ASD could be understood vis-à-vis the influence of underlying symptoms of these neurodevelopmental disorders. In ADHD, difficulties inhibiting impulses are central to the disorder (American Psychiatric Association, 2000) and could result in difficulty keeping gender impulses “under wraps” in spite of internal and external pressures against cross-gender expression. In ASD, children and adolescents may be less aware of the social restrictions against expressions of gender variance and therefore less likely to avoid expressing these inclinations. It could also be theorized that excessively rigid or “black and white” thinking in ASD could result in a child with ASD rigidly interpreting mild or moderate gender nonconforming inclinations as more intense or absolute. However, this second idea is in contrast to a report from de Vries et al. (2010) that, after extended psychiatric evaluation, a substantial proportion of adolescents with ASD and concurrent GID/gender dysphoria showed persistent gender variance and were appropriate for gender transitioning.

Recent findings suggest a possible physiological correlate for the overlap between ASD and gender variance. Bejerot et al. (2012) studied adults with ASD and found that, compared to a non-ASD group, women with ASD had increased masculine physical characteristics: higher testosterone levels, less feminine facial features, and larger head circumference. Men with ASD, as compared to a non-ASD group, had less masculine characteristics overall, including less masculine body attributes, less masculine voice, and a ratio of second to fourth finger more similar to that in females. Nevertheless, it remains unclear how our findings fit with models, such as the *extreme male brain* theory (Baron-

Cohen, 2002, 2009), that have paralleled ASD differences from typical development with those found in males versus females. There is also evidence showing reduced sex differences among adults with ASD in brain regions recruited to perform neuropsychological tasks (Beacher et al., 2012).

Though novel, our study had limitations. First, because this was not a population-based study, issues of clinical ascertainment bias may arise; however, this concern is mitigated in between group comparisons due to highly similar referral sources. Future studies should examine the coincidence of gender variance and neurodevelopmental disorders in the context of total population samples, extending beyond clinically-ascertained groups. Second, the field lacks well-tested instruments sensitive to gender variance. Although the CBCL gender identity-related item level data has been shown to be sensitive and specific to gender variance, future studies should employ more comprehensive assessments of gender identity, including self-reports from the children and adolescents themselves.

This study confirms the importance of examining gender variance in various neurodevelopmental disorders. Given our findings of elevated emotional symptoms among those children with comorbid neurodevelopmental disorders and gender variance, and our clinical experience that these children have particularly complex challenges managing gender variance in the presence of neurodevelopmental challenges, further inquiry into this comorbidity is important. Future directions should include research on the management of gender variance when there is a comorbid neurodevelopmental disorder. For example, how does a clinician best assess whether an adolescent with ASD who expresses a wish to transition to the other gender understands the “big picture” implications of such a decision, when it is known that ASD often results in problems with so-called “central coherence” and related “big picture” thinking skills (Happé & Frith, 2006; Jackson & Atance, 2008). Treatment related studies are also required, addressing such issues as how to help an adolescent with persistent gender variance and ASD manage gender transition, when deficits in social awareness, executive function (Kenworthy, Yerys, Anthony, & Wallace, 2008), and self-help skills (Kenworthy, Case, Harms, Martin, & Wallace, 2010; Rodrigue, Morgan, & Geffken, 1991) severely impact their ability to “pass” as the other gender.

References

- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for ASEBA School-Age Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.
- Arnold, S. D. (1996). Sex differences in ADHD: Conference summary. *Journal of Abnormal Child Psychology*, 24, 555–569.

- Baird, G., Simonoff, E., Pickles, A., Chandler, S., Loucas, T., Meldrum, D., et al. (2006). Prevalence of disorders of the autism spectrum in a population cohort of children in South Thames: The Special Needs and Autism Project (SNAP). *Lancet*, 368, 210–215.
- Baron-Cohen, S. (2002). The extreme male brain theory of autism. *Trends in Cognitive Sciences*, 6, 248–254.
- Baron-Cohen, S. (2009). Autism: The empathizing-systemizing (E-S) theory. *Annals of the New York Academy of Sciences*, 1156, 68–80.
- Beacher, F. D. C. C., Radulescu, E., Minati, L., Baron-Cohen, S., Lombardo, M. V., Lai, M., et al. (2012). Sex differences and autism: Brain function during verbal fluency and mental rotation. *PLoS ONE*, 7. doi:10.1371/journal.pone.0038355.
- Bedard, C., Zhang, H. L., & Zucker, K. J. (2010). Gender identity and sexual orientation in people with developmental disabilities. *Sexuality and Disability*, 28, 165–175.
- Bejerot, S., Eriksson, J. M., Bonde, S., Carlström, K., Humble, M. B., & Eriksson, E. (2012). The extreme male brain revisited: Gender coherence in adults with autism spectrum disorder. *British Journal of Psychiatry*, 201, 116–123.
- Biddle, D. A., & Morris, S. B. (2011). Using Lancaster's mid-P correction to the Fisher's exact test for adverse impact analyses. *Journal of Applied Psychology*, 96, 956–965.
- Bland, J. M., & Altman, D. G. (2000). Statistics notes: The odds ratio. *British Medical Journal*, 320, 1468.
- Center for Disease Control and Prevention. (2012). Prevalence of autism spectrum disorders—autism and developmental disabilities monitoring network, fourteen sites, United States, 2008. *Surveillance Summaries*, 61, 1–19.
- Coates, S., & Person, E. S. (1985). Extreme boyhood femininity: Isolated behavior or pervasive disorder? *Journal of the American Academy of Child Psychiatry*, 24, 702–709.
- Cohen-Kettenis, P. T., Owen, A., Kaijser, V. G., Bradley, S. J., & Zucker, K. J. (2003). Demographic characteristics, social competence, and behavior problems in children with gender identity disorder: A cross-national, cross-clinic comparative analysis. *Journal of Abnormal Child Psychology*, 31, 41–53.
- Constantino, J. N., & Gruber, C. P. (2005). *Social Responsiveness Scale*. Los Angeles, CA: Western Psychological Services.
- de Vries, A. L. C., & Cohen-Kettenis, P. T. (2012). Clinical management of gender dysphoria in children and adolescents: The Dutch approach. *Journal of Homosexuality*, 59, 301–320.
- de Vries, A. L. C., Doreleijers, T. A. H., Steensma, T. D., & Cohen-Kettenis, P. T. (2011). Psychiatric comorbidity in gender dysphoric adolescents. *Journal of Child Psychology and Psychiatry*, 52, 1195–1202.
- de Vries, A. L. C., Noens, I. L., Cohen-Kettenis, P. T., Van Berckelaer-Onnes, I. A., & Doreleijers, T. A. (2010). Autism spectrum disorders in gender dysphoric children and adolescents. *Journal of Autism and Developmental Disorders*, 40, 930–936.
- Dreger, A. (2009). Gender identity disorder in childhood: Inconclusive advice to parents. *Hastings Center Report*, 39, 26–29.
- Drescher, J., & Byne, W. (2012). Introduction to the Special Issue on "The Treatment of Gender Dysphoric/Gender Variant Children and Adolescents." *Journal of Homosexuality*, 59, 295–300.
- Edwards-Leeper, L., & Spack, N. P. (2012). Psychological evaluation and medical treatment of transgender youth in an interdisciplinary "Gender Management Service" (GeMS) in a major pediatric center. *Journal of Homosexuality*, 59, 321–336.
- Fombonne, E. (2005). Epidemiology of autistic disorder and other pervasive developmental disorders. *Journal of Clinical Psychiatry*, 66, 3–8.
- Gallucci, G., Hackerman, F., & Schmidt, C. W. (2005). Gender identity disorder in an adult male with Asperger's syndrome. *Sexuality and Disability*, 23, 35–40.
- Gutmann, D. H., Aylsworth, A., Carey, J. C., Korf, B., Marks, J., Pyeritz, R. E., et al. (1997). The diagnostic evaluation and multidisciplinary management of neurofibromatosis 1 and neurofibromatosis 2. *Journal of the American Medical Association*, 278, 51–57.
- Happé, F., & Frith, U. (2006). The weak coherence account: Detail-focused cognitive style in autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 36, 5–25.
- Jackson, L. K., & Atance, C. M. (2008). Future thinking in children with autism spectrum disorders: A pilot study. *Journal on Developmental Disabilities*, 14, 40–45.
- Kenworthy, L., Case, L., Harms, M. B., Martin, A., & Wallace, G. L. (2010). Adaptive behavior ratings correlate with symptomatology and IQ among individuals with high-functioning autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 40, 416–423.
- Kenworthy, L., Yerys, B. E., Anthony, L. G., & Wallace, G. L. (2008). Understanding executive control in autism spectrum disorders in the lab and in the real world. *Neuropsychology Review*, 18, 320–338.
- Kraemer, B., Delsignore, A., Gundelfinger, R., Schnyder, U., & Hepp, U. (2005). Comorbidity of asperger syndrome and gender identity disorder. *European Child and Adolescent Psychiatry*, 14, 292–296.
- Lai, M., Chiu, Y., Gadow, K. D., Gau, S. S., & Hwu, H. (2010). Correlates of gender dysphoria in Taiwanese university students. *Archives of Sexual Behavior*, 39, 1415–1428.
- Lainhart, J. E., Bigler, E. D., Bocian, M., Coon, H., Dinh, E., Dawson, G., et al. (2006). Head circumference and height in autism: A study by the Collaborative Program of Excellence in Autism. *American Journal of Medical Genetics Part A*, 140, 2257–2274.
- Landen, M., & Rasmussen, P. (1997). Gender identity disorder in a girl with autism: A case report. *European Child and Adolescent Psychiatry*, 6, 170–173.
- Le Couteur, A., Rutter, M., Lord, C., Rios, P., Robertson, S., Holdgrafer, M., et al. (1989). Autism Diagnostic Interview: A standardized investigator-based instrument. *Journal of Autism and Developmental Disorders*, 19, 363–387.
- Lord, C., Rutter, M., DiLavore, P. C., & Risi, S. (2000). *Autism Diagnostic Observation Schedule (ADOS)*. Los Angeles: Western Psychological Services.
- Lord, C., Rutter, M., & Le Couteur, A. (1994). Autism Diagnostic Interview-Revised: A revised version of the Autism Diagnostic Interview for caregivers of individuals with possible pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, 24, 659–685.
- Menvielle, E. (2012). A comprehensive program for children with gender variant behaviors and gender identity disorders. *Journal of Homosexuality*, 59, 357–368.
- Mukaddes, N. M. (2002). Gender identity problems in autistic children. *Child: Care, Health and Development*, 28, 529–532.
- Perera, H., Gadambanathan, T., & Weerasiri, S. (2003). Gender identity disorder presenting in a girl with Asperger's disorder and obsessive compulsive disorder. *Ceylon Medical Journal*, 48, 57–58.
- Rodrigue, J. R., Morgan, S. B., & Geffken, G. R. (1991). A comparative evaluation of adaptive behavior in children and adolescents with autism, Down syndrome, and normal development. *Journal of Autism and Developmental Disorders*, 21, 187–196.
- Tateno, M., Tateno, Y., & Saito, T. (2008). Comorbid childhood gender identity disorder in a boy with Asperger syndrome. *Psychiatry and Clinical Neurosciences*, 62, 238.
- Van Beijsterveldt, C. E. M., Hudziak, J. J., & Boomsma, D. I. (2006). Genetic and environmental influence on cross-gender behavior and relation to behavior problems: A study of Dutch twins at ages 7 and 10 years. *Archives of Sexual Behavior*, 35, 647–658.
- VanderLaan, D. P., Postema, L., Wood, H., Singh, D., Fantus, S., Hyun, J., et al. (2014). Do children with gender dysphoria have intense/obsessional interests? *Journal of Sex Research*. doi:10.1080/00224499.2013.860073.
- Wallien, M. S. C., Swaab, H., & Cohen-Kettenis, P. T. (2007a). Psychiatric comorbidity among children with gender identity disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1307–1314.
- Wallien, M. S. C., van Goozen, S. H. M., & Cohen-Kettenis, P. T. (2007b). Physiological correlates of anxiety in children with

- gender identity disorder. *European Child and Adolescent Psychiatry*, 16, 309–315.
- Williams, P. G., Allard, A. M., & Sears, L. (1996). Case study: Cross-gender preoccupations with two male children with autism. *Journal of Autism and Developmental Disorders*, 26, 635–642.
- Wolkenstein, P., Freche, B., Zeller, J., & Revuz, J. (1996). Usefulness of screening investigations in neurofibromatosis type 1: A study of 152 patients. *Archives of Dermatology*, 132, 1333–1336.
- Wood, H. (2011, October). The relationship between gender identity disorder and autism spectrum disorder. In K. J. Zucker (Chair), *Gender identity disorder in children and adolescents: Theoretical and empirical advances*. Symposium presented at the joint meeting of the American Academy of Child and Adolescent Psychiatry and the Canadian Academy of Child and Adolescent Psychiatry, Toronto.
- Zucker, K. J., & Bradley, S. J. (1995). *Gender identity disorder and psychosexual problems in children and adolescents*. New York: Guildford Press.
- Zucker, K. J., Bradley, S. J., Owen-Anderson, A., Kibblewhite, S. J., Wood, H., Singh, D., et al. (2012). Demographics, behavior problems, and psychosexual characteristics of adolescents with gender identity disorder or transvestic fetishism. *Journal of Sex and Marital Therapy*, 38, 151–189.
- Zucker, K. J., Owen, A., Bradley, S. J., & Ameeriar, L. (2002). Gender-dysphoric children and adolescents: A comparative analysis of demographic characteristics and behavioral problems. *Clinical Child Psychology and Psychiatry*, 7, 398–411.
- Zucker, K. J., Wood, H., & VanderLaan, D. P. (2014). Models of psychopathology in children and adolescents with gender dysphoria. In B. P. C. Kreukels, T. D. Steensma, & A. L. C. de Vries (Eds.), *Gender dysphoria and disorders of sex development: Progress in care and knowledge* (pp. 171–192). New York: Springer.



A Follow-Up Study of Boys With Gender Identity Disorder

Devita Singh¹, Susan J. Bradley² and Kenneth J. Zucker^{2*}

¹ Department of Human Development and Applied Psychology, Ontario Institute for Studies in Education, University of Toronto, Toronto, ON, Canada, ² Department of Psychiatry, University of Toronto, Toronto, ON, Canada

OPEN ACCESS

Edited by:

Maria Inês Rodrigues Lobato,
Clinical Hospital of Porto Alegre, Brazil

Reviewed by:

Ray Blanchard,
University of Toronto, Canada
Lanna Petterson,
University of Lethbridge, Canada
Scott William Semenyina,
University of Lethbridge, Canada

*Correspondence:

Kenneth J. Zucker
ken.zucker@utoronto.ca

Specialty section:

This article was submitted to
Public Mental Health,
a section of the journal
Frontiers in Psychiatry

Received: 24 November 2020

Accepted: 18 February 2021

Published: 29 March 2021

Citation:

Singh D, Bradley SJ and Zucker KJ
(2021) A Follow-Up Study of Boys
With Gender Identity Disorder.
Front. Psychiatry 12:632784.
doi: 10.3389/fpsy.2021.632784

This study reports follow-up data on the largest sample to date of boys clinic-referred for gender dysphoria ($n = 139$) with regard to gender identity and sexual orientation. In childhood, the boys were assessed at a mean age of 7.49 years (range, 3.33–12.99) at a mean year of 1989 and followed-up at a mean age of 20.58 years (range, 13.07–39.15) at a mean year of 2002. In childhood, 88 (63.3%) of the boys met the DSM-III, III-R, or IV criteria for gender identity disorder; the remaining 51 (36.7%) boys were subthreshold for the criteria. At follow-up, gender identity/dysphoria was assessed via multiple methods and the participants were classified as either persisters or desisters. Sexual orientation was ascertained for both fantasy and behavior and then dichotomized as either biphilic/androphilic or gynephilic. Of the 139 participants, 17 (12.2%) were classified as persisters and the remaining 122 (87.8%) were classified as desisters. Data on sexual orientation in fantasy were available for 129 participants: 82 (63.6%) were classified as biphilic/androphilic, 43 (33.3%) were classified as gynephilic, and 4 (3.1%) reported no sexual fantasies. For sexual orientation in behavior, data were available for 108 participants: 51 (47.2%) were classified as biphilic/androphilic, 29 (26.9%) were classified as gynephilic, and 28 (25.9%) reported no sexual behaviors. Multinomial logistic regression examined predictors of outcome for the biphilic/androphilic persisters and the gynephilic desisters, with the biphilic/androphilic desisters as the reference group. Compared to the reference group, the biphilic/androphilic persisters tended to be older at the time of the assessment in childhood, were from a lower social class background, and, on a dimensional composite of sex-typed behavior in childhood were more gender-variant. The biphilic/androphilic desisters were more gender-variant compared to the gynephilic desisters. Boys clinic-referred for gender identity concerns in childhood had a high rate of desistance and a high rate of a biphilic/androphilic sexual orientation. The implications of the data for current models of care for the treatment of gender dysphoria in children are discussed.

Keywords: gender dysphoria, gender identity disorder, gender non-conformity, sexual orientation, DSM-5

INTRODUCTION

Gender identity is considered to be, for most people, a central aspect of one's sense of self (1–6).¹ By around 3 years of age, if not earlier, most children can self-label themselves as either a boy or a girl (11–14) although cognitive-developmental gender theory suggests that the understanding of gender as an “invariant” aspect of the self does not occur until early to middle childhood, with the achievement of concrete operational thought (12, 15, 16). Gender differences in the adoption of gender role behavior, i.e., behavior associated with cultural definitions of masculinity and femininity, also emerge during the preschool years, if not earlier. These behaviors span various domains, including peer, toy, role play, and activity preferences [e.g., (3, 17, 18)]. Normative developmental research has long documented that, on average, both gender identity and gender role behaviors show significant and substantial between-sex differences (19–21). Later in development, sexual orientation also shows a substantial between-sex difference, i.e., most males are sexually attracted to females and most females are sexually attracted to males (19, 22).

In the 1950s and 1960s, a small clinical literature began to describe the phenomenology of children who displayed marked gender-variant behavior, including the strong desire to be of the other gender [e.g., (23–27)]. Subsequent volumes by Stoller (28) and Green (29) provided more comprehensive descriptions of such children. These early works were the sequel to the introduction of the diagnostic term Gender Identity Disorder (GID) of Childhood to the psychiatric nomenclature in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* [DSM-III; (30)], currently termed Gender Dysphoria (GD) in the DSM-5 (31). Since 1980, empirical research has examined a number of parameters pertaining to GID/GD: epidemiology, diagnostic and assessment methods, associated psychopathology, causal mechanisms, and therapeutic approaches [for reviews, see, e.g., (32–39)].

An additional parameter (the focus of the present study) pertains to the developmental course of GID in children. In the early literature, it was posited by some that pervasive gender-variant behavior in children might be a predictor of GID in adulthood (termed Transsexualism in the DSM-III) [e.g., (26, 40)]. At the same time, it was also recognized that gender-variant behavior in childhood was associated with sexual orientation (in males, androphilia, i.e., sexual attraction to men; in females, gynephilia, i.e., sexual attraction to women), but without co-occurring gender dysphoria [see, e.g., (41, 42); for a meta-analytic review, see (43)].

To date, there have been at least 10 follow-up studies of children whose behavior was consistent with the DSM diagnosis

of GID (or GD per DSM-5) (44–53). Across these studies, the year at the time of first evaluation in childhood ranged from 1952 (49) to 2008 (51). For the 9 studies that included boys, the sample sizes (excluding those lost to follow-up) ranged from 6 to 79 (Mean age, 26 years). Most of these studies also provided the age at the time of first evaluation in childhood, which ranged from a mean of 7 years (47) to a mean of 9 years (48), with an age range from 4 to 12 years.

At the time of follow-up, using different metrics (e.g., clinical interview, maternal report, dimensional measurement of gender dysphoria, a DSM diagnosis of GID, etc.), these studies provided information on the percentage of boys who continued to have gender dysphoria (herein termed “persisters”) and the percentage of boys who did not (herein termed “desisters”).² Of the 53 boys culled from the relatively small sample size studies (Bakwin, Davenport, Kosky, Lebovitz, Money and Russo, Zuger), the percentage classified as persisters was 9.4% (age range at follow-up, 13–30 years). In Green (47), the percentage of persisters was 2% (total $n = 44$; Mean age at follow-up, 19 years; range, 14–24); in Wallien and Cohen-Kettenis (52), the percentage of persisters was 20.3% (total $n = 59$; Mean age at follow-up, 19.4 years; range, 16–28); and in Steensma et al. (51), the percentage of persisters was 29.1% (total $n = 79$; Mean age at follow-up, 16.1 years; range, 15–19). Across all studies, the percentage of persisters was 17.4% (total $N = 235$), with a range from 0 to 29.1%.³

These studies also provided information on the sexual orientation of the boys at the time of follow-up. In the early studies, sexual orientation was ascertained from various sources (e.g., open-ended interviews with the patient, parent-report, chart information, etc.). In the more recent studies, sexual orientation was assessed in a more systematic manner, such as the use of a structured interview to assign a Kinsey-based rating of sexual orientation in fantasy and a rating of sexual orientation in behavior, dummy coded where a 0 = gynephilia and a 6 = androphilia [e.g., (47)].

Of the 53 boys culled from the relatively small sample size studies (op. cit.), 13 (34.2%) of the patients were classified as gynephilic and 25 (65.8%) were classified as biphilic/androphilic.⁴ In the remaining 15 patients (28.3% of the combined samples), their sexual orientation was either uncertain or unknown.

²The terms persistence and desistance have been used for a long time in clinical developmental psychiatry and psychology [e.g., (54)]. Zucker (55) was the first to apply these terms to describe the developmental psychosexual trajectories of children diagnosed with GID.

³The percentages provided here differ somewhat from other summary reviews [(39), pp. 285–286, (56, 57)] because we have excluded patients who were seen for the first time in adolescence [for this reason, data from Zuger (58) are also not included]. One other follow-up study was conducted by Nakamura (59). Unfortunately, this dissertation is not available for purchase at ProQuest (Ann Arbor, MI) and is only available for loan at the University of Essex library. Due to COVID-19 restrictions, it is currently inaccessible (K. Clarke, personal communication to G. Rieger, June 15, 2020). The director of the clinic at the time when the data were collected does not have a copy of the dissertation (D. Di Ceglie, personal communication, June 15, 2020).

⁴As pointed out by Reviewer 1, biphilic is a dubious neologism, combining Latin and Greek derivatives. Diphilic would be the more accurate derivative. However, introducing this term would probably confuse many readers, so we have retained the term biphilic (see https://en.wikipedia.org/wiki/Androphilia_and_gynephilia).

¹In one study, Turner and Brown (7) found that school-age children rarely mentioned their gender when providing open-ended self-descriptions; the most frequent descriptor pertained to activities and preferences. Turner and Brown suggested that it might be the case that gender is so central to one's self-concept that it “goes without saying” (p. 709). In contemporary times in the West, a very small number of parents choose to not “gender” their children (“theybies”) by not referring to them as boys or girls (and, at times, not even announcing to others the child's biological sex), dressing them in gender-neutral ways, etc. Little is known about the gender identity and gender role patterns of these children (8–10).

In Green's (47) study, 11 (25%) of the boys were classified as gynephilic (Kinsey ratings of 0–1) and 33 (75%) were classified as biphilic/androphilic in fantasy (Kinsey ratings of 2–6). For behavior, 6 (20%) were classified as gynephilic and 24 (80.0%) were classified as biphilic/androphilic. The remaining 14 boys (31.8% of the total sample) could not be classified with regard to behavior because they had had no interpersonal sexual experiences. In Green's study, the sexual orientation of a comparison group of boys, who had been recruited from the community, was also assessed: 100% of these boys ($n = 35$) were classified as gynephilic in fantasy and 96% ($n = 25$) were classified as gynephilic in behavior.

In the Wallien and Cohen-Kettenis (52) study, sexual orientation was assessed for attraction (2 items), fantasy (2 items), behavior (4 items), and sexual identity (1 item) using a self-developed Sexual Orientation Questionnaire. As in Green, Kinsey-type ratings were used in the analysis. Depending on the metric, data on sexual orientation were not available for anywhere between 22 and 40 (27.2–67.7%) patients. For attraction, 32% were classified as gynephilic and 68% were classified as androphilic (total $N = 37$); for fantasy, 19% were classified as gynephilic, 19% were classified as biphilic, and 62% were classified as androphilic (total $N = 21$); for behavior, 21% were classified as gynephilic, 16% were classified as biphilic, and 63% were classified as androphilic (total $N = 19$); lastly, for sexual identity, 19% were classified as gynephilic ("heterosexual"), 19% were classified as biphilic ("bisexual"), and 62% were classified as androphilic ("homosexual") (total $N = 27$). Steensma et al. (51) used the same metrics as Wallien and Cohen-Kettenis. Depending on the metric, data on sexual orientation were not available for anywhere between 25 and 40 (31.6%–50.6%) patients. For attraction, 19.2% were classified as gynephilic, 15.4% were classified as biphilic, and 65.4% were classified as androphilic (total $N = 52$); for fantasy, 14% were classified as gynephilic, 22% were classified as biphilic, and 64% were classified as androphilic (total $N = 50$); for behavior, 35.9% were classified as gynephilic, 12.8% were classified as biphilic, and 51.3% were classified as androphilic (total $N = 39$); lastly, for sexual identity, 13% were classified as gynephilic ("heterosexual"), 27.8% were classified as biphilic ("bisexual"), and 59.3% were classified as androphilic ("homosexual") (total $N = 54$).

In recent years, there have been various criticisms of these follow-up studies [see, e.g., (60–63); for a rebuttal, see (64)], particularly with regard to the putatively high percentage of desistance. It has been questioned, for example, to what extent the patients in these studies truly had GID/GD. For example, in the early studies, prior to the publication of DSM-III, one could reasonably argue that the diagnostic status of the patients was unclear because there were no formal diagnostic criteria to rely upon. However, one could argue in return that the behavior of these boys was phenomenologically consistent with the subsequent DSM criteria.

Consider, for example, the systematic study by Green [(47), Figure 1.2]. Green reported that 15% of the feminine boys, per parent-report, had "never" expressed the desire to be a girl or a woman at the time of the baseline assessment, 60% "occasionally" had such a desire, and only 25% had such a desire

"frequently." Thus, a conservative critic might argue that only the last group would have met one of the key indicators for the GID/GD diagnosis in the DSM.⁵ On the other hand, suppose a boy "occasionally" voiced the desire to be a girl over a period of several years. One might want to make the case that this would be consistent with the DSM descriptors of "persistently" or "repeatedly," etc. Of course, one could debate what would genuinely count as "occasionally" (in Green's trichotomous metric, it would be anything more than "never" and less than "frequently"). In any case, it is probably reasonable to argue that, in Green's study, some boys were threshold and some boys were subthreshold for the equivalent of a DSM diagnosis. Given that in Green's study only one boy persisted with gender dysphoria at the time of follow-up, the threshold-subthreshold distinction would not really matter.

Studies that employed DSM criteria for GID/GD allow for a more formal examination of the "No True Scotsman" argument (https://en.wikipedia.org/wiki/No_true_Scotsman).

In the Wallien and Cohen-Kettenis (52) study, the DSM-III-R criteria were used to diagnose GID. Of the 12 persisters, all met the criteria for GID at the time of the baseline assessment; in contrast, only 68% of the 47 desisters met the criteria for GID; the remainder were deemed subthreshold for the diagnosis. Thus, in their study, the threshold-subthreshold distinction appears to have been an important one in predicting outcome; nonetheless, it should be noted that 68% of the desisters had been threshold for the diagnosis in childhood—perhaps a strong rebuttal to the No True Scotsman argument. In Steensma et al. (51), the DSM-IV-TR criteria were used. Of the 23 persisters, 21 (91.3%) met the criteria for GID; in contrast, only 22 (39.3%) of the 56 desisters were threshold for the diagnosis, suggesting an even more substantial difference in the threshold-subthreshold distinction than was found in Wallien and Cohen-Kettenis. Although the latter percentage was lower than what was found in Wallien and Cohen-Kettenis, that almost 40% of the desisters met the criteria for GID in childhood still argues in favor that the children were desisting from something.⁶

From Wallien and Cohen-Kettenis (52) and Steensma et al. (51), one predictor of outcome, therefore, was the distinction between being threshold or subthreshold for the GID diagnosis in childhood. Dimensional measures of gender-variant behavior have also proven useful. In both Wallien and Cohen-Kettenis and Steensma et al., dimensional measures of sex-typed behavior in childhood also significantly discriminated between the persisters and desisters, with the former group having, on average, more severe gender-variant behavior at the time of the childhood

⁵The situation is compounded even further because in the DSM-IV, unlike in the DSM-III and DSM-III-R (65), the stated desire to be of the other gender was not a necessary criterion for the diagnosis [for the rationale, see (66), pp. 483–486]. In DSM-5, the desire to be of the other gender does not require explicit verbalization; the clinician is allowed leeway in drawing inferences based on other sources of information [see (67), pp. 904–905].

⁶In the follow-up study by Drummond et al. (46) of 25 girls from our clinic, the desistance rate was 88%. Of the 22 desisters, 13 (59.0%) met the DSM-III, III-R or IV criteria for GID. In Wallien and Cohen-Kettenis (52), of the 9 girls who desisted, 55.5% met the DSM-III-R criteria for GID. In Steensma et al. (51), of the 24 girls who desisted, 58.3% met the DSM-IV criteria for GID.

assessment. Steensma et al. found two other predictors of persistence: boys who were assessed at an older age and boys who had made either a partial or complete gender “social transition” [see (68–70)]. Of the 12 boys who had partially or completely transitioned prior to puberty, 10 (83.3%) were classified as persisters. In contrast, of the 67 boys who had not socially transitioned, only 13 (19.4%) were classified as persisters.

In the present study, we provide follow-up data with regard to both gender identity (persistence vs. desistance) and sexual orientation (gynephilia vs. biphilia/androphilia) on the largest sample of boys studied to date. Apart from providing percentage data on these two variables, which will be discussed in a comparative perspective in relation to the prior studies and the epidemiological literature, we also examine the predictors of outcome in relation to both demographic and sex-typed behavior measures (including whether or not the boys were threshold or subthreshold for GID) collected at the time of the baseline assessment in childhood.

METHOD

Participants

The participants were 139 boys (“birth-assigned males”)⁷ who, in childhood, had been referred to and then assessed in the Gender Identity Service, Child, Youth, and Family Program at the Centre for Addiction and Mental Health (CAMH) in Toronto, Ontario between 1975 and 2009 (Mean year of assessment, 1989.36) and were adolescents or adults at follow-up (Mean year at follow-up, 2002.35).⁸

Participants entered the follow-up study through two methods of recruitment. The majority of participants (77%) were recruited for research follow-up. There were two main waves of participant recruitment through research contact, from 1986 to 1993 ($n = 32$) and then from 2009 to 2011 ($n = 71$). During the period of data collection, 32 patients re-contacted the service for clinical reasons (eight for gender dysphoria, six for sexual orientation, and 18 for heterogeneous concerns) [for details, see (77), Appendix E]. They were informed about the opportunity to participate in the follow-up study and subsequently completed the study protocol. The majority of the patient-initiated participants had contacted the clinic between the two main waves of research recruitment. Thus, from 1994 to 2008, the participants who entered the study were primarily those who had contacted the service for clinical reasons.

In the early wave of follow-up, a lower-bound age for participation was set at 14 years, but by the mid-1990s this was

changed to a lower-bound age of 16 years. In total, 110 (79.1%) participants were at least 16 years of age and 29 (20.9%) were younger than 16. Across the entire period of data collection, eligible participants, after review of the medical chart, were contacted at random (other than the participants who had returned to the service for clinical reasons). Due to lack of study resources and time constraints, contact with 162 other eligible participants was not attempted.

In total, 145 patients were approached about the follow-up study, either through research contact ($n = 113$) or following their clinical involvement with the Gender Identity Service ($n = 32$). Six patients declined, which yielded a participation rate of 95.9%. For those recruited for research purposes, initial contact, by telephone, letter or email, was first made with the parents because the patients were minors at the time of the childhood assessment and may have had no recollection of their clinic attendance. A total of 19 (14.3%) potential participants could not be reached/traced through previous addresses, registrars, and personal contacts.

Of the 139 participants, 110 were seen for a face-to-face assessment. For various reasons, the remaining 29 patients could not be seen for the face-to-face assessment (e.g., lived in another province or country, “too busy,” severe mental health issues). For some patients, they provided some information over the phone or information was provided by the parents; thus, for these patients, it was possible to obtain some follow-up data about their gender identity and sexual orientation.

The demographic characteristics of the participants, including their age at assessment in childhood and at the time of follow-up, are shown in **Table 1**. The GID diagnosis in childhood was based on the DSM-III ($n = 53$), DSM-III-R ($n = 46$), or DSM-IV ($n = 40$) criteria applicable at the time of assessment.⁹ A total of 88 (63.3%) boys met complete DSM criteria for GID in childhood. The remaining 51 (36.7%) boys were subthreshold for a DSM diagnosis, but all had some indicators of GID, and, based on the historical information provided during the assessment, some would have met the complete DSM criteria at some point in their lives prior to their assessment in childhood.¹⁰ The percentage who met the complete DSM criteria for GID did not differ significantly as a function of DSM edition, $\chi^2_{(2)} < 1$.

Procedure

The majority of participants who completed the face-to-face assessment were evaluated on a single day. Three participants were seen twice. In these instances, the participants completed the self-report measures during their second visit as the complexity of their clinical presentation extended the duration of the assessment. Participants were provided a stipend for their participation in the follow-up assessment and reimbursement for travel expenses. For participants followed-up prior to 2009 ($n = 68$), the data were collected by the third author; for those followed-up between 2009 and 2011, the data were collected

⁷Two reviewers asked why we chose to use the noun “boys” instead of the noun “males.” In our view, the question was reasonable but also a matter of semantics and taste. The third edition of *The Oxford Dictionary of Current English* (71) defines boy as “a male child...” Thus, we believe that the two words can be used synonymously. Males can refer to any age in the life-span whereas boys connote childhood. The participants in our study were coded as male at the time of their birth in the hospital delivery record, of which we had the actual birth records for the majority of the participants in the current study (72). As per Bouman et al. (73), one would say that the participants were “assigned male at birth” and then declared socially to be “boys” (74).

⁸The clinic was established in 1975 at the Clarke Institute of Psychiatry (75, 76), which became part of the CAMH in 1998.

⁹For boys seen prior to the publication of DSM-III in 1980, the draft criteria were used.

¹⁰In DSM-III, termed Atypical Gender Identity Disorder; in DSM-III-R and DSM-IV, termed Gender Identity Disorder Not Otherwise Specified.

TABLE 1 | Demographic characteristics ($N = 139$).

Characteristic	<i>M</i>	<i>SD</i>	Range	%
From childhood				
Age (in years)	7.49	2.66	3.33–12.99	
Year of birth	1981.87	7.50	1966–1996	
Year of assessment	1989.36	7.50	1975–2004	
IQ ^a	105.93	15.47	69–138	
Social class ^b	40.74	15.15	8.0–66.0	
Marital status ^c				
Two-parent family				64.7
Other				35.3
Caucasian				84.9
At follow-up				
Age (in years)	20.58	5.22	13.07–39.15	
Year of follow-up	2002.35	9.08	1986–2011	
Follow-up interval (in years) ^d	12.88	6.07	2.77–29.29	
IQ ^{e,f}	105.88	16.03	65–138	

^aFull-Scale IQ was obtained with age-appropriate Wechsler intelligence scales.

^bHollingshead's (78) Four Factor Index of Social Status (absolute range, 8–66).

^cOther included the following family constellations: single parent, separated, divorced, living with relatives, or in the care of a child protection agency.

^dInterval denotes the time between childhood assessment and follow-up assessment.

^eFull Scale IQ estimated using four subtests: Vocabulary, Comprehension, Block Design, and Object Assembly.

^fAn IQ score was available only for participants who completed the face-to-face assessment. Of these, scores were not available for one participant.

by the first author ($n = 71$). The study was approved by the Institutional Review Boards at the Clarke Institute of Psychiatry (subsequently the Centre for Addiction and Mental Health; Protocol #198/2008–2011) and the University of Toronto.

Measures

Below, we describe the measures from assessment and follow-up of relevance for this article. A list of all measures used in the follow-up study can be found in Singh [(77), Table 4].

Childhood Assessment

Cognitive Functioning

Based on the child's age at the time of assessment, the appropriate version of the Wechsler Intelligence Scale for Children was administered (WPPSI-R or the WISC-R/WISC-III/WISC-IV). Full scale IQ scores were used to characterize level of cognitive functioning.

Behavioral and Emotional Problems

Parents completed the Child Behavior Checklist (CBCL), a measure of behavioral and emotional problems (79). Although not the focus of the present study, it is noted here because we used three CBCL indices (sum of all behavior problems and Internalizing and Externalizing T scores) as part of an internal validity analysis when comparing participants vs. non-participants (see Results).

Sex-Typed Behavior

Five child informant and two parent informant measures were used to assess the participants' sex-typed behavior in childhood: (1) Draw-a-Person [DAP] test (80); (2) a free-play task (81); (3) the Playmate and Playstyle Preferences Structured Interview (PPPSI) (82, 83); (4) sex-typed responses on the Rorschach test (84); (5) the Gender Identity Interview for Children (GIIC) (85–87); (6) the Gender Identity Questionnaire for Children (GIQC) (88–90); and (7) a measure of activity level/extraversion [(39); see also (91)]. These child and parent informant measures all have established discriminant validity, that is, they significantly differentiated the boys clinic-referred for gender identity concerns from control boys [for reviews, see (18, 92)]. A Childhood Sex-Typed Behavior Composite was subsequently computed for each participant (see below).

Follow-Up Assessment

Cognitive Functioning

Four subtests from the age-appropriate version of the Wechsler Intelligence Scales were administered (Vocabulary, Comprehension, Block Design, and Object Assembly). The standard scores from the subtests were averaged to form a prorated IQ score for cognitive functioning (93).

Concurrent Gender Identity

Concurrent gender identity was evaluated using a semi-structured interview and self-report questionnaires. During an audiotaped interview, each participant was asked to describe their current feelings about being a biological male. They were also asked to describe positive and negative aspects about their gender identity. For example, participants who reported a "male" gender identity were asked to describe positive and negative aspects of being male. The semi-structured interview also included questions based on the adolescent and adult GID criteria outlined in the DSM-III-R or DSM-IV (65, 94). Participants were asked to respond to these questions according to the last 12 months with *No*, *Sometimes*, or *Yes* [for details, see (77), Appendix G].

Two self-report measures were also used to assess current gender identity and gender dysphoria: (1) The Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults (GIDYQ-AA) (95–97) or (2) the Gender Dysphoria/Identification questionnaire (GDIQ) (98). The GDIQ was developed prior to the GIDYQ-AA. As such, the GIDYQ-AA was introduced to the protocol subsequent to the GDIQ and, as a result, the more recent participants completed the GIDYQ-AA while earlier participants completed the GDIQ.

The male version of the GIDYQ-AA was completed. This 27-item questionnaire measures gender identity and gender dysphoria in adolescents or adults; participants over the age of 17 completed the adult version and younger participants completed the adolescent version. The adolescent and adult versions are identical except that, in the adult version, the words "man" and "woman" are used instead of "boy" and "girl." Each item was rated on a 1–5 point response scale with verbal anchor points ranging from *Never* to *Always* based on a time frame of the past 12 months. Coding was such that a "lower" score signified more gender dysphoria. Item examples include the following:

“In the past 12 months, have you felt unhappy about being a man?” and “In the past 12 months, have you had the wish or desire to be a woman?” Principal axis factor analysis identified a one-factor solution that accounted for 61.3% of the variance. All factor loadings were ≥ 0.30 (median, 0.86; range, 0.34–0.96). The GIDYQ-AA has strong evidence for discriminant validity and a high threshold for specificity (i.e., low false positive rate for non-GID individuals) [see (95, 96, 99–102)].

The GDIQ (98) contains 8 items pertaining to gender identity and gender dysphoria. Factor analysis identified two factors, accounting for 31.4 and 12.5% of the variance, respectively (all factor loadings ≥ 0.45). Factor 1 consisted of five items pertaining to gender dysphoria and Factor 2 consisted of three items pertaining to gender role identification. For the present study, only the questions for Factor 1 were used. Each item was rated on a 3-point or 5-point scale for the past 12 months (see **Appendix 1** in **Supplementary Material**).

Participants were classified as having persistent gender dysphoria if their mean score on the GIDYQ-AA was ≤ 3.00 , in line with sensitivity and specificity analyses from other data sets (95, 96). For participants who did not complete the GIDYQ-AA, the GDIQ was used. A participant was classified as a persister if two or more of the following five items on the GDIQ were endorsed: wish to have been born a girl (Item 1), wish to have surgery to change body (Item 2), feel more like a girl than a boy (Item 3), wonder if would be happier as a girl (Item 4), and somewhat or very dissatisfied with being a boy (Item 5).

Information regarding participants' gender identity/gender dysphoria was also obtained during the semi-structured clinical interview and, therefore, allowed for cross-validation of these questionnaire data. For those participants who did not complete the face-to-face interview, clinical information regarding gender identity/gender dysphoria was obtained through self- or parent-report or chart review. Across the entire sample, the GIDYQ-AA was used to classify persistence or desistence for 64 participants, the GDIQ for 42 participants, and interview/chart data/parent report for 33 cases.

Sexual Orientation

Sexual orientation in fantasy was assessed with specific questions from an audiotaped face-to-face interview and the self-report Erotic Response and Orientation Scale (EROS) (103).

The interview asked about four types of sexual fantasy over the past 12 months: (1) crushes on other people; (2) sexual arousal to visual stimuli (e.g., acquaintances, partners, and individuals from movies, television, etc.); (3) sexual content of night dreams; and (4) sexual content of masturbation fantasies. During the interview, participants were not asked directly about the gender of the person or persons who elicited sexual arousal, thus allowing time for the participant to provide this information spontaneously. Directed questions about the gender of the person(s) who elicited sexual arousal were asked only if the participant did not volunteer specific information about whether their arousal was directed to same-sex or opposite-sex individuals, or both. By the end of the interview, each participant provided information about sexual arousal to both same-sex and opposite-sex individuals. Using the Kinsey scale criteria

(104), the interviewer assigned Kinsey ratings that ranged from 0 (exclusively gynephilic in fantasy) to 6 (exclusively androphilic in fantasy) for each question. A dummy score of 7 denoted that the participant did not experience or report any fantasies. A global fantasy score was also derived based on ratings from the four questions. Kinsey ratings for sexual orientation in fantasy were available for 129 participants.

Inter-rater reliability on Kinsey ratings for sexual orientation in fantasy was examined for 29 participants, selected at random. The second scorer listened to the audio recordings of the semi-structured interview, with specific attention to the information collected on sexual orientation. The inter-rater agreement on the Kinsey global fantasy rating was very good ($\kappa = 0.95$) and the kappa values for the four specific components ranged from 0.81 to 1.00.

The EROS is a 16-item self-report measure assessing sexual orientation in fantasy over the past 12 months. Half of the questions pertained to gynephilic fantasy (e.g., “How often have you noticed that you had sexual feelings [even the slightest] while looking at a woman?”) and the other half pertained to androphilic fantasy (e.g., “How often have you noticed that you had sexual feelings [even the slightest] while looking at a man?”). Participants who were 18 years and older completed the adult version and younger participants completed the adolescent version. The adolescent and adult versions are identical except that, in the adult version, the words “man” and “woman” were used instead of “boy” and “girl.” Each item was rated on a 5-point scale for frequency of occurrence, ranging from 1 (“none”) to 5 (“almost every day”). Mean androphilic and gynephilic fantasy scores were derived for each participant. In the present study, we calculated a difference score between the participants' mean androphilic and gynephilic scores. Previous use of the EROS has shown good evidence of discriminant validity (98, 101).

Sexual orientation in behavior was assessed with specific questions during the face-to-face interview and with a modified version of the Sexual History Questionnaire (SHQ) (105). In the interview, questions asked about five types of sexual behavior: (1) dating; (2) holding hands in a romantic manner; (3) kissing; (4) genital fondling or touching a woman on the breasts, and (5) intercourse (penile-vaginal and anal). Kinsey ratings for behavior in the past 12 months were made in the same manner as fantasy ratings. Kinsey ratings for sexual orientation in behavior were available for 108 participants. Inter-rater reliability on Kinsey ratings for sexual orientation in behavior was examined for the same 29 participants. There was perfect inter-rater agreement on the Kinsey global behavior rating ($\kappa = 1.0$) and the kappa values for the five specific components ranged from 0.91 to 1.00.

The modified SHQ consists of 20 questions. Ten questions pertained to gynephilic experiences (e.g., “How many women have you kissed on the lips in a romantic way?”) and 10 questions pertained to androphilic experiences (e.g., “How many men have you kissed on the lips in a romantic way?”). Participants who were 18 years and older completed the adult version and younger participants completed the adolescent version. The adolescent and adult versions are identical except that, in the adult version, the words “man” and “woman” were used instead of “boy” and “girl.” Each item was rated on a 5-point scale for frequency

of occurrence, ranging from 1 (“none”) to 5 (“11 or more”), based on a time frame of the past 12 months. Mean total scores for gynephilic and androphilic experiences were derived. In the present study, we calculated a difference score between the participants’ mean androphilic and gynephilic scores.

On the basis of Kinsey ratings, participants who completed the face-to-face interview were classified, similar to Green (47), into the following three sexual orientation groups for both fantasy and behavior: (1) gynephilic (Kinsey global ratings of 0–1); (2) biphilic/androphilic (Kinsey global ratings of 2–6), and (3) no sexual fantasy or behavior.

Social Desirability

Social desirability refers to the desire to cast a favorable impression on others. It can threaten the validity of self-report scales if in answering questions respondents seek social approval or try to represent themselves in a favorable manner (106). People scoring high on social desirability tend to provide socially acceptable answers regardless if their response accurately describes them. Participants 18 years and older completed the Marlow-Crowne Social Desirability Scale (M-CSDS) (107), which consists of 33 true-false items. The scale contains 18 culturally acceptable but unlikely statements keyed in the true direction and 15 socially undesirable but probable statements keyed in the false direction for a maximum possible score of 33. Participants 17 years and under were given a shorter version of the M-CSDS (108), containing 20 items that consist of 12 culturally acceptable but improbable statements keyed in the true direction and eight socially undesirable but probable statements keyed in the false direction for a maximum possible score of 20. For the present study, the percentage of endorsed socially desirable items was calculated for each participant. In order to integrate the data from both versions of the M-CSDS, participants’ percentage score on each measure was converted to a proportion score which ranged from 0 to 1, which was used in all analyses. A higher proportion score indicates a greater propensity to give socially desirable responses. Several studies have found that the M-CSDS is a reliable and valid measure of social desirability (107, 109, 110).

RESULTS

Preliminary Analyses

Participants vs. Non-participants

Given that not all eligible participants were seen for follow-up, it is important to see to what extent the participants vs. non-participants were similar with regard to baseline characteristics, in part to gauge the internal validity of the sample (111).

The non-participants consisted of three subgroups: (1) patients who were eligible to participate in the study but were not contacted ($n = 163$), (2) patients who declined to participate ($n = 6$), and (3) patients who were not successfully traced ($n = 19$). Two sets of analyses were conducted to compare study participants vs. non-participants. First, the participants were compared to the patients who were eligible but not contacted. Second, the participants were compared to those who declined to participate and to those where contact was attempted but not successfully traced. Group comparisons were conducted on

five demographic variables (age at assessment in childhood, IQ, ethnicity, and parents’ marital status and social class), parent-report of behavior problems on the CBCL (three indices), and nine measures of childhood sex-typed behavior.

Of these 17 variables, there was only one significant difference between the 139 boys in the study compared to the 163 boys who were eligible to participate but were not contacted: participants had a higher IQ than non-participants, $t_{(289)} = 2.01$, $p = 0.046$.¹¹ The effect size for this comparison was small (unpooled $d = 0.22$) [for details, see (77), Tables 5, 6]. When compared to the six cases where participation in the study was declined and to the 19 cases where the families could not be traced, there was also only one significant difference: parent’s marital status, $\chi^2_{(2)} = 9.02$, $p = 0.011$. The participants did not differ significantly from the non-participants who refused; however, they differed significantly from the cases that could not be traced, $\chi^2_{(1)} = 6.39$, $p = 0.012$. The participants were more likely to have originated within a two-parent household than those who could not be traced. The comparison between the non-participants who refused and those who could not be traced approached significance ($p = 0.056$, Fisher’s exact test). Again, the non-participants who could not be traced were more likely to have come from a family composition that was not two-parent. A further summary of comparisons between the participants and those who declined or could not be traced can be found in the **Supplementary Material**.

Participants: Method of Recruitment

Using t -tests or chi-square tests, the 107 participants who entered the study through research contact were compared to the 32 participants who were recruited into the study after they had re-contacted the clinic for clinical reasons on the demographic variables, CBCL behavior problems in childhood, and the measures of childhood sex-typed behavior. There were no significant differences between the two groups on the demographic variables of age at assessment, ethnicity or parents’ social class and marital status ($ps > 0.05$). The comparison on childhood IQ approached significance, $t_{(137)} = 1.97$, $p = 0.051$, with the research entry participants having, on average, a higher IQ than the clinical entry participants. On the CBCL, there was a significant difference on Internalizing problems only, $t_{(137)} = -2.02$, $p = 0.046$, with the clinical entry participants rated by their parents as having more internalizing problems compared to the research entry participants. Of the nine measures of childhood sex-typed behavior, the two groups differed significantly on three: (1) free play, $t_{(119)} = -2.11$, $p = 0.037$, (2) the Gender Identity Interview for Children, $t_{(83)} = -2.09$, $p = 0.04$, and (3) the Gender Identity Questionnaire for Children, $t_{(95)} = 2.39$, $p = 0.019$, with the clinical entry participants having, on average, more childhood cross-gender behavior than the research entry participants. The percentage of clinical entry participants who were threshold for the diagnosis of GID in childhood did not differ significantly from the research entry participants (75.8 vs. 59.8%), $\chi^2_{(1)} = 1.83$. Of the 32 clinical entry participants, 8 had re-contacted the clinic because

¹¹ IQ data were not available for 11 of the 163 boys who were eligible for the study but were not contacted.

of gender dysphoria. The above-described comparisons were repeated to compare the research and clinical entry participants but with these 8 participants excluded. With the eight participants who contacted the clinic for gender dysphoria removed, there were no significant group differences on demographic variables, CBCL behavior problems, and measures of childhood sex-typed behavior (all p s > 0.05).

Gender Identity at Follow-Up

Appendix 2 in Supplementary Material shows the follow-up data for gender identity and sexual orientation for each participant. Of the 139 participants, 17 (12%) were classified as persisters and the remaining 122 (88%) were classified as desisters. The age at the time of follow-up did not differ significantly between the persisters (Mean, 20.12 years; SD = 5.54) and desisters (Mean, 20.64 years; SD = 5.19), $t_{(137)} < 1$. Of the 107 participants who, for research purposes only, were contacted for the follow-up study, 10 (9%) were classified as persisters; of the 32 participants who were recruited into the study after they were seen for some type of clinical concern, 7 (22%) were classified as persisters. The difference in persistence rate as a function of recruitment entry type was not significant, $\chi^2_{(1)} = 2.53$, $p = 0.112$. The difference in persistence rate between those patients seen for the face-to-face assessment vs. those who were not (14.5 vs. 3.4%) was also not significant, $\chi^2_{(1)} = 1.70$, $p = 0.192$. **Supplementary Table 1** summarizes information on some domains of gender role outcome for the 17 participants classified as having persistent gender dysphoria.

For the 42 participants where the GDIQ was used to determine gender identity status at follow-up, four were classified as persisters and 38 were classified as desisters. Of the 38 desisters, three endorsed one item and the remainder endorsed none of the items.¹² The four participants classified as persisters endorsed between three and five items.

For the 64 participants where the GIDYQ-AA was used to determine gender identity status at follow-up, 12 were classified as persisters and 52 were classified as desisters. All 52 desisters had a mean score >3.00 on the GIDYQ-AA. Of the 12 persisters, 10 had a mean score ≤3.00 and two had mean scores that were >3.00. In spite of having mean scores on the GIDYQ-AA that were above the recommended cutoff for caseness (95), these two participants were considered persisters because their clinical interview data indicated that they were experiencing significant gender dysphoria. Thus, clinical judgment was used to make the final classification for these two participants.

For the remaining 33 participants, clinical interview, parent-report or chart data were used to classify the percentage who were persisters ($n = 1$; 3%) or desisters ($n = 32$; 97%).

The persistence rate of gender dysphoria was examined as a function of participants' GID diagnostic status in childhood (threshold vs. subthreshold). Of the 88 participants who met the full diagnostic criteria for GID in childhood, 12 (13.6%) were classified as persisters and the remaining 76 (86.4%) were

not. Of the 51 participants who were subthreshold for the GID diagnosis in childhood, 5 (9.8%) were classified as persisters and the remaining 46 (90.2%) were not. A chi-square analysis indicated that the rate of persistence did not differ significantly between the threshold and subthreshold groups, $\chi^2_{(1)} < 1$.

Over the years, prevalence rates for gender dysphoria in adults have varied considerably. The variation is likely a function of many factors, including definition, time period, and source of ascertainment. For example, in the Standards of Care of the World Professional Association for Transgender Health (112), probably relying on an estimate given in the DSM-IV-TR, the prevalence of gender dysphoria in adult males was estimated to be 1 in 30,000. In the meta-analysis by Arcelus et al. (113), the prevalence in adult males was estimated at 1 in 14,705. Lastly, Zhang et al.'s (114) review of recent population-based surveys estimated the prevalence of a self-reported transgender identity in adults to range between 0.33 and 0.53% (males and females combined). Regardless of which base rate figure one might choose to use as a point of comparison, the persistence rate of 12% (while low in an absolute sense) would be considerably higher than what one would detect in the general population.

Sexual Orientation at Follow-Up

Table 2 shows the Kinsey ratings for sexual orientation in fantasy. Data were not available for 10 participants, all of whom were desisters with regard to gender dysphoria. Based on the global rating for sexual orientation in fantasy, 43 (33.3%) participants were classified as gynephilic in fantasy and 82 (63.6%) were classified as biphilic/androphilic in fantasy. In the remaining four (3.1%) cases, the participants were classified as having no sexual fantasies and, therefore, a Kinsey rating could not be assigned.¹³ In all four cases, the participants were desisters. Of the 17 participants classified as persisters, 1 (5.9%) was gynephilic in fantasy and 16 (94.1%) were biphilic/androphilic in fantasy. For participants assigned a Kinsey rating between 0 and 6 in fantasy, we correlated the interviewer's Kinsey rating with the participants' responses on the EROS in which their mean gynephilic score was subtracted from their mean androphilic score. This yielded an $r(101) = 0.86$, $p < 0.001$.

Table 2 also shows the Kinsey ratings for sexual orientation in behavior. Data were available for 108 participants. Based on the global rating for sexual orientation in behavior, 29 (26.9%) participants were classified as gynephilic and 51 (47.2%) were classified as biphilic/androphilic. The remaining 28 (25.9%) participants did not report any sexual behaviors in the 12 months preceding the follow-up assessment. For participants assigned a Kinsey rating between 0 and 6 in behavior, we correlated the

¹²By "endorsed," we mean that the participants answered other than "never" on Items 1–4 or response options d–e for Item 5 (see **Appendix 1** in Supplementary Material).

¹³For 104 participants, the Kinsey rating in fantasy was based on the information provided in the face-to-face interview. For 21 other participants, the Kinsey rating in fantasy was based on self-report (by telephone), information available in the participant's health record, or parent-report. Participants were assigned a Kinsey rating of 6 if the participant self-identified as "gay" or if the health record indicated that the patient was "homosexual" or gay, etc. Participants were assigned a Kinsey rating of 0 if the patient self-identified as "straight" or "heterosexual," etc. A chi-square test showed that the percentage of participants who were classified as Kinsey 0–1 vs. 2–6 did not differ significantly as a function sexual orientation ascertainment method, $\chi^2_{(1)} = 1.49$.

TABLE 2 | Kinsey ratings for sexual orientation in fantasy and behavior.

Variable	Kinsey rating (fantasy) ^a															
	0		1		2		3		4		5		6		No fantasy	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Crush	36	36.7	0	0	2	2.0	4	4.1	2	2.0	11	11.2	29	29.6	14	14.3
Visual	31	31.6	1	1.0	2	2.0	10	10.2	3	3.1	12	12.2	29	29.6	10	10.2
Dreams	13	13.3	1	1.0	1	1.0	4	4.1	3	3.1	3	3.1	27	27.6	46	46.9
Masturbation	21	21.9	2	2.1	3	3.1	6	6.3	2	2.1	7	7.3	33	34.4	22	22.9
Global fantasy rating	40	31.0	3	2.3	3	2.3	8	6.2	2	1.6	14	10.9	55	42.6	4	3.1
	Kinsey rating (behavior) ^a															
	0		1		2		3		4		5		6		No sexual behavior	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Holding hands	26	26.3	0	0	0	0	5	5.1	1	1.0	1	1.0	35	35.4	31	31.3
Kissing	21	21.2	0	0	0	0	6	6.1	2	2.0	2	2.0	34	24.3	34	34.3
Genital/breast contact	13	13.1	0	0	0	0	3	3.0	2	2.0	1	1.0	35	35.4	45	45.5
Intercourse	8	8.2	0	0	0	0	3	3.1	2	2.0	0	0	27	27.6	58	59.2
Global behavior rating	28	25.9	1	0.9	0	0	4	3.7	3	2.8	1	0.9	43	39.8	28	25.9

^a0 = Exclusively gynephilic to 6 = Exclusively androphilic.

interviewer's Kinsey rating with the participants' responses on the SHQ in which their mean gynephilic score was subtracted from their mean androphilic score. This yielded an $r(75) = 0.79$, $p < 0.001$.

For those participants who could be assigned a Kinsey rating (i.e., excluding those participants who did not report any sexual fantasies or behavior or for whom data were not available), the correlation between Kinsey global fantasy and global behavior ratings was very strong, $r(78) = 0.92$, $p < 0.001$.

Group Classification as a Function of Gender Identity and Sexual Orientation in Fantasy at Follow-Up¹⁴

Combining gender identity (i.e., persister or desister) and sexual orientation in fantasy (i.e., gynephilic or biphilic/androphilic) at follow-up, the participants were classified into one of four outcome groups (for which we had all of the relevant data): (1) persistence of gender dysphoria with a biphilic/androphilic sexual orientation ($n = 16$); (2) desistance of gender dysphoria with a biphilic/androphilic sexual orientation ($n = 66$); (3) desistance of gender dysphoria with a gynephilic sexual orientation ($n = 42$); and (4) persistence of gender dysphoria with a gynephilic sexual orientation ($n = 1$). The participants who reported no sexual fantasies ($n = 4$) could not be included in this outcome classification. Given that only one participant was classified as gender dysphoric with a co-occurring gynephilic sexual orientation (Group 4), this category was excluded from subsequent analyses that compared these outcome groups.

¹⁴Given the strong correlation between Kinsey fantasy and behavior ratings and that there were fewer missing data on the Kinsey fantasy variable, participants were classified into one of the four outcome groups based on their fantasy ratings.

Demographic Characteristics in Childhood as a Function of Gender Identity and Sexual Orientation in Fantasy

Table 3 shows the demographic variables in childhood as a function of group. One-way ANOVAs and chi-square were conducted to evaluate whether the outcome groups differed on these variables. The groups differed significantly on four of the five childhood demographic variables. Duncan's multiple range test for unequal Ns showed that the biphilic/androphilic persisters were, on average, significantly older at the time of the childhood assessment than both the gynephilic desisters and the biphilic/androphilic desisters, who did not differ significantly from each other. The biphilic/androphilic desisters had, on average, a higher IQ than the biphilic/androphilic persisters but did not differ significantly from the gynephilic desisters. There was no significant difference in childhood IQ score between biphilic/androphilic persisters and gynephilic desisters. The biphilic/androphilic persisters were significantly more likely to come from a lower social class background compared to the gynephilic desisters and the biphilic/androphilic desisters, who did not differ significantly from each other (see also Figure 1). The biphilic/androphilic desisters were more likely to be living with both parents compared to the biphilic/androphilic persisters. There was no significant difference on marital status between the two desister groups.

The demographic variables from childhood on which the three groups differed—age at assessment, IQ, social class, and marital status—were significantly correlated (r s ranged from $|0.32-0.58|$) [see Table 12 in (77)]. To evaluate the predictive status of these variables on group outcome at follow-up, a multinomial logistic regression was performed. Table 4 shows the results. For these analyses, the biphilic/androphilic desisters served as the reference

TABLE 3 | Demographic characteristics as a function of group.

Variable		Group			F or χ^2	p	η^2 or Cramer's V
		Persisters Biphilic/ Androphilic (n = 16)	Desisters Biphilic/ Androphilic (n = 66)	Desisters Gynephilic (n = 42)			
Childhood							
Age (in years)	M	8.85	6.96	7.49	3.57	0.031	0.06
	SD	1.67	2.69	2.62			
IQ ^a	M	101.63	110.20	103.18	3.77	0.026	0.06
	SD	14.81	14.56	15.16			
Social class ^b	M	23.76	44.97	39.44	15.30	<0.001	0.20
	SD	10.22	13.64	15.91			
Marital status ^c							
Two-parent	N (%)	7 (43.8)	49 (74.2)	24 (57.1)	6.74	0.034	0.23
Other	N (%)	9 (56.3)	17 (25.8)	18 (42.9)			
Ethnicity							
Caucasian	N (%)	14 (87.5)	58 (87.9)	32 (76.2)	2.77	0.250	0.14
Other	N (%)	2 (12.5)	8 (12.1)	10 (23.8)			
Follow-up							
Age at follow-up (in years) ^d	M	20.32	22.13	17.85	10.41	<0.001	0.15
	SD	5.67	4.97	3.95			
IQ at follow-up ^{a,e,f}	M	99.07	110.47	104.19	3.82	0.025	0.07
	SD	16.29	13.54	17.50			
Follow-up interval (in years)	M	11.47	15.17	10.36	9.63	<0.001	0.04
	SD	6.77	6.03	4.85			
Social desirability ^g	M	0.44	0.43	0.52	3.07	0.051	0.07
	SD	0.17	0.18	0.19			

^aFull-Scale IQ was obtained with age-appropriate Wechsler intelligence scales.

^bHollingshead's (78) Four Factor Index of Social Status (absolute range, 8–66).

^cOther included the following family constellations: single parent, separated, divorced, living with relatives, or in the care of a child protection agency.

^dInterval denotes the time between childhood assessment and follow-up assessment.

^eFull Scale IQ was estimated using four subtests: Vocabulary, Comprehension, Block Design, and Object Assembly.

^fAn IQ score was available only for participants who completed the face-to-face assessment.

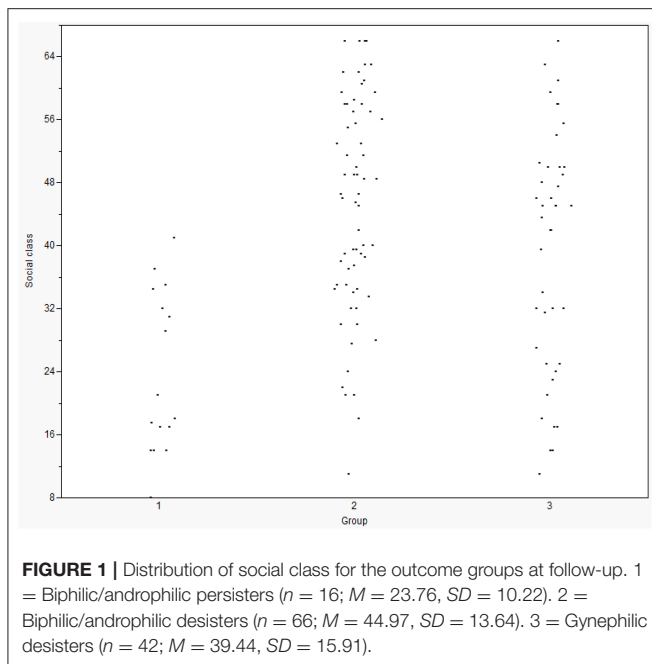
^gAbsolute range, 0.00–1.00. Higher score indicates a greater propensity to give socially desirable responses. Age at follow-up, IQ at follow-up, social class, and parent's marital status were co-varied.

group. Each coefficient, *B*, represents the change in the log odds for Group for a 1-unit increase in the corresponding predictor, controlling for all other predictors in the model. The next column presents the standard error (SE) for each *B*. The Wald statistic was the quantity used to determine the significance level of each predictor variable. The quantity, e^B , is the multiplicative change in the odds of being classified as a biphilic/androphilic persister (Model 1) or a gynephilic desister (Model 2) for a 1-unit increase in the corresponding predictor, and thus $100 \times (e^B - 1)$ represents the percentage change in the odds ratio for a 1-unit increase in that predictor (115).

It can be seen from **Table 4** that only social class had a significant contribution to the prediction of group outcome at follow-up (see also **Figure 1**). The biphilic/androphilic persisters had a 13% increase in odds of coming from a lower social class background compared to the biphilic/androphilic desisters.

However, social class did not predict outcome when the two desister groups were compared.

Table 3 also shows the variables of age, IQ, and social desirability scores at follow-up as a function of group. One-way ANOVAs revealed that both age and IQ differed significantly among the three groups ($ps < 0.01$), but social desirability scores did not. Duncan's multiple range test for unequal *N*s showed that the gynephilic desisters were, on average, younger than both the biphilic/androphilic persisters and the biphilic/androphilic desisters (both $ps < 0.05$), who did not differ significantly from each other. Regarding IQ at follow-up, the results were similar to those for IQ in childhood. The biphilic/androphilic desisters had, on average, a higher IQ than the biphilic/androphilic persisters ($p < 0.05$) but did not differ significantly from the gynephilic desisters. There was no significant difference in IQ between the biphilic/androphilic persisters and the gynephilic desisters.



Childhood Sex-Typed Behavior as a Function of Gender Identity and Sexual Orientation at Follow-Up Supplementary Table 2 shows the means or percentage scores (for dichotomous measures) of the nine sex-typed measures obtained at the assessment in childhood as a function of the three outcome groups. ANCOVAs (with age at assessment, IQ, social class, and marital status covaried) or chi-square were used to examine whether the groups differed on any of these variables.¹⁵ There was a significant difference between the groups on four child-report measures (first drawn person on the Draw-a-Person, free play, Gender Identity Interview, and cross-sex peer preference on the Playmate and Play Style Preferences Structured Interview, and one parent-report measure (Gender Identity Questionnaire for Children). A statistical summary of these individual measures can be found in the **Supplementary Text** and the data are shown in **Supplementary Table 2**.

The childhood sex-typed behavior measures on which the groups differed were all significantly correlated (r s ranged from $|0.30-0.76|$) [reported in (77), Table 15].¹⁶ From these six measures (first drawn person on the Draw-a-Person, free play, Gender Identity Interview, cross-sex peer preference on the Playmate and Play Style Preferences Structured Interview, cross-sex toy preference on the Playmate and Play Style Preferences Structured Interview, and the Gender Identity Questionnaire for Children), a composite score of childhood sex-typed behavior was derived for each participant by taking the average of the

six variables (each expressed as z -scores).¹⁷ A higher composite z -score indicates more cross-gender behavior at the assessment in childhood.

To evaluate the influence of childhood sex-typed behavior and demographic variables on group outcome at follow-up, a multinomial logistic regression was performed using the composite score and the demographic variables on which the groups differed—age at assessment, IQ, and social class—as predictor variables. It can be seen from **Table 5** that both social class and the composite score of childhood sex-typed behavior were significant predictors of group outcome at follow-up in the first model, which compared the biphilic/androphilic persisters to the biphilic/androphilic desisters.

The biphilic/androphilic persisters had a 274% increase in odds of having a higher composite score (i.e., more childhood cross-gender behavior) and an 11% reduction in the odds of coming from a higher social class compared to the biphilic/androphilic desisters. Age at childhood assessment and IQ did not have a significant effect on group outcome (both p s > 0.05). In the second model, which compared the gynephilic desisters to the biphilic/androphilic desisters, the only significant predictor of group outcome was the composite measures of sex-typed behavior. The biphilic/androphilic desisters had a 48% increase in odds of having a higher composite score compared to the gynephilic desisters.

DISCUSSION

Methodological Issues

We were not able to recruit into the study all eligible patients; however, our analyses which compared the participants vs. the non-participants did not show any substantive or pervasive differences with regard to the baseline assessment characteristics, suggesting that the internal validity of the sample was not grossly compromised (111). The majority of follow-up participants were recruited for research purposes; however, a minority entered the study after having been seen in adolescence for some clinical issue. There was some evidence that the patients who were enrolled in the study after recontacting the clinic were, on average, more extreme in their gender-variant behavior in childhood; however, the percentage who were threshold for the GID diagnosis in childhood did not differ significantly between the two subgroups. Although the percentage of persisters was higher in the subgroup that had recontacted the clinic than the subgroup recruited for research purposes only (22% vs. 9%), the difference was also not statistically significant. If anything, the direction of the difference would suggest that the overall rate of persistence may have been slightly overestimated had we relied entirely on a “research-only” follow-up sample.

Another methodological issue is that we relied on different metrics to assess gender identity and gender dysphoria at follow-up. For example, we replaced the GDIQ with the GIDYQ-AA as we viewed the latter as a better measure; in some instances,

¹⁵The ANCOVA model was adjusted to accommodate a categorical covariate.

¹⁶Although the groups did not differ significantly on cross-sex toy preference on the PPPSI, this measure is included here because there was a trend in the direction of a significant group difference.

¹⁷For some participants, data were not available on all six measures. In these cases, the composite score was the average of the number of variables for which there were data.

TABLE 4 | Multinomial logistic regression of group outcome at follow-up.

Predictor	Biphilic/Androphilic persisters					Gynephilic desisters				
	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>p</i>	<i>e^B</i>	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>p</i>	<i>e^B</i>
Age at assessment	0.11	0.14	0.62	0.433	1.12	−0.02	0.09	0.03	0.856	0.98
IQ	0.02	0.03	0.85	0.358	1.02	−0.02	0.02	1.91	0.167	0.98
Social class	−0.14	0.04	13.66	<0.001	0.87	−0.01	0.02	0.13	0.716	0.99
Marital status	0.76	0.80	0.88	0.349	0.47	−0.43	0.52	0.70	0.402	1.54

Reference group is the Biphilic/Androphilic Desisters. This group was chosen as the reference because it had the largest group size.

TABLE 5 | Multinomial logistic regression predicting group outcome at follow-up.

Predictor	Biphilic/Androphilic persisters					Gynephilic desisters				
	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>p</i>	<i>e^B</i>	<i>B</i>	<i>SE</i>	<i>Wald</i>	<i>p</i>	<i>e^B</i>
Age at assessment	0.26	0.16	2.90	0.09	1.30	−0.14	0.11	1.55	0.21	0.87
IQ	0.02	0.03	0.58	0.45	1.02	−0.03	0.01	2.77	0.10	0.97
Social class	−0.12	0.03	12.28	<0.001	0.89	−0.01	0.01	0.51	0.47	0.99
Composite z-score	1.32	0.55	5.82	0.02	3.74	−0.66	0.31	4.38	0.04	0.52

Reference group is the Biphilic/Androphilic Desisters. This group was chosen as the reference because it had the largest group size. A preliminary analysis with marital status included as a predictor variable showed that it did not have a significant effect and was, therefore, excluded in the final regression model. As suggested by Reviewer 3, per Benjamin et al. (116), for the “discovery of new effects,” *p*-values between 0.05 and 0.005 should be viewed as “suggestive” (i.e., informative, but cautiously interpreted), and *p*-values < 0.005 as “significant” (i.e., stronger evidence for the implausibility of a difference merely by chance).

we relied solely on interview data or information available in the patient’s medical chart. However, we did not detect any substantive difference in the percentage of persisters across these different sources of information and thus do not believe that such method variance challenges the validity of the findings.

Although a minority of participants were seen on more than one occasion for follow-up, the majority were not. Thus, our results and interpretation of the follow-up data are largely limited to one “moment in time,” at a mean age of 20.58 years. It would, of course, be of value to have additional follow-up of the patients as they move further into adulthood in order to assess the stability (or lack thereof) of the data with regard to both gender identity and sexual orientation. In our own clinical experience, for example, we have observed that some of the patients seen during adolescence “fluctuated” between self-identifying as transgender and self-identifying as gay. Others have noted that a small number of apparent or presumed desisters during adolescence subsequently identified as transgender when seen at a later point in time (117).

Summary of Key Findings

The present study provided follow-up data with regard to gender identity and sexual orientation in boys referred clinically for gender dysphoria. There were three key findings: (1) the persistence of gender dysphoria was relatively low (at 12%), but obviously higher than what one would expect from base rates in the general population; (2) the percentage who had a biphilic/androphilic sexual orientation was very high (in fantasy: 65.6% after excluding those who did not report any sexual fantasies; in behavior: 63.7% after excluding those who did not have any interpersonal sexual experiences), markedly higher than what one would expect from base rates in the general

population; (3) we identified some predictors (from childhood) of long-term outcome when contrasting the persisters with a biphilic/androphilic sexual orientation with the desisters with a biphilic/androphilic sexual orientation and when contrasting the desisters with a biphilic/androphilic sexual orientation and the desisters with a gynephilic sexual orientation.

The 12% persistence rate was somewhat lower than the overall persistence rate of 17.4% from the prior follow-up studies of boys combined. When compared to the three most methodologically sound follow-up studies, the persistence rate was higher than the 2.2% rate found by Green (47), but lower than the 20.3% rate found by Wallien and Cohen-Kettenis (52) and the 29.1% rate found by Steensma et al. (51). There is one methodological caveat regarding the Steensma et al. study that is worth noting. In their study, the mean interval between assessment and follow-up was relatively short (7.21 years). The patients were eligible for follow-up if they were at least 15 years of age. Given the relatively short interval between the assessment in childhood and the follow-up assessment in adolescence, this meant that patients who had been assessed at younger ages in childhood would not have been old enough to participate in the follow-up assessment. Given that Steensma et al. found that (older) age at the time of the assessment in childhood was a significant predictor of persistence, it is conceivable that their persistence rate was an overestimate. Nonetheless, in the broadest sense, our data were quite consistent with the general finding from the prior follow-up studies that desistance from gender dysphoria is by far the more common outcome.

In our study, we did not find that persistence was more common among boys who were threshold for the diagnosis of GID when compared to the boys who were subthreshold (13.6% vs. 9.8%) although the pattern was in the same direction

as that found by Wallien and Cohen-Kettenis (52) and Steensma et al. (51). We would, therefore, argue that the threshold-subthreshold distinction should not be abandoned in future follow-up studies although such studies might profit from using a symptom count of DSM indicators in addition to the dichotomous coding of the diagnosis as threshold vs. subthreshold. Consistent with both Wallien and Cohen-Kettenis and Steensma et al., our composite measure of sex-typed behavior in childhood was a significant predictor of outcome in that the patients classified as persisters with a biphilic/androphilic sexual orientation had more severe gender-variant behavior than the patients classified as desisters with a biphilic/androphilic sexual orientation; in addition, desisters with a biphilic/androphilic sexual orientation had more gender-variant behavior than the desisters with a gynephilic sexual orientation. Thus, dimensional measurement of gender identity and gender role behaviors from childhood provides added nuance in characterizing longer term trajectories with regard to both gender identity and sexual orientation.

With regard to sexual orientation at follow-up, the percentage of patients with a biphilic/androphilic sexual orientation in either fantasy or behavior was reasonably similar to those reported on in the prior follow-up studies which included standardized assessment measures (47, 51, 52). This finding also converges with three representative, general population prospective studies (118–120) and many retrospective studies (43) which document a significant association between patterns of gender-typed behavior in childhood and later sexual orientation.

The multinomial logistic regression analysis (**Table 4**) also showed a trend for the persisters with a biphilic/androphilic sexual orientation to be older at the time of the assessment in childhood compared to the desisters with a biphilic/androphilic sexual orientation; however, when the composite measure of sex-typed behavior in childhood was added to the equation (**Table 5**), age at assessment in childhood no longer showed such a trend [cf. Steensma et al. (51)]. In our smaller study of girls with GID (46), the persisters were, on average, 2.5 years older than the desisters at the time of the assessment in childhood (11.08 vs. 8.59 years) although the difference was not significant. It is our view that age at the time of a childhood assessment in relation to long-term outcome should continue to be examined in future follow-up studies.

Social class was a significant predictor of outcome: the persisters with a biphilic/androphilic sexual orientation were from a lower social class background compared to the desisters with a biphilic/androphilic sexual orientation (even after controlling for the other demographic variables). Why might this be the case? Because we had not made formal *a priori* predictions of outcome regarding any of our demographic variables, it is, of course, important to see whether or not it will be replicated in new follow-up studies. At present, our interpretation of the social class effect reflects on its relationship to other literatures.

One possibility pertains to the notion that acceptance of a gay or homosexual sexual identity is less in “working class” subculture (121). If this is, in fact, the case, it has been argued that transitioning from male to female—the so-called “homophobic” hypothesis with regard to gender dysphoria in adults (122)—would allow an androphilic sexual orientation to be more

acceptable. Future studies would need to systematically examine whether boys with persistent GID first attempt to live as gay men before transitioning to the female gender role and whether or not this temporal sequence, when it occurs, is related to social class background.

In the present study, it could be hypothesized that the parents of persisters held less favorable views of androphilia (homosexuality) compared to the desisters and thus predisposed to persistence in order to “normalize” one’s sexual orientation. However, this is simply a conjecture as parental attitudes toward homosexuality were not measured in the study sample. Indeed, none of the follow-up studies to date on boys with gender dysphoria have specifically examined attitudes toward homosexuality as a predictor of outcome.

Social class could also be a proxy for other explanatory factors. For example, in the present study, a lower social class background was significantly correlated with age at assessment in childhood ($r = 0.44$) and families where there had been a separation/divorce, etc. ($r = 0.58$). If one wanted to make the case that a later age at assessment might be associated with persistence (for a variety of reasons), perhaps social class is associated with a “delay” in seeking out an assessment and possible treatment (e.g., family stress, various other mental health challenges in the child and/or the family, etc.). In one study comparing the demographic characteristics of children vs. adolescents clinic-referred for gender dysphoria, it was found that the adolescents were more likely than the children to come from a lower social class background and from families in which there had been a separation/divorce, etc. (123).

Clinical Implications

What clinical implications might be drawn from our data on the persistence and desistence rates of gender dysphoria in children? First, it should be recognized that the boys in the current study were seen during a period of time when treatment recommendations, if such were made, often aimed to reduce the gender dysphoria between the child’s felt gender identity and biological sex. If one peruses the treatment literature, such recommendations were carried out using many therapeutic modalities: psychotherapy or psychoanalysis, behavior therapy, group therapy, parent-counseling, and interventions in the naturalistic environment, such as encouragement of same-sex peer relations [see, e.g., (124–126); for reviews, see (127, 128)].¹⁸

¹⁸This “broad stroke” summary of therapeutic goals is not meant to minimize the complexity of ethical issues regarding how treatment has been conceptualized over the years [see, e.g., (129–133)]. In the early years, treatment recommendations included other goals: for example, Bakwin (44) wrote that “Suggestions for management...[were]...designed to encourage gender appropriate behavior and to prevent homosexuality” [p. 620, emphasis added; see also (134)]. Rekers (135) was subsequently quite transparent regarding the influence of his own religious beliefs in formulating treatment goals, sometimes congruent with parents’ religious beliefs (see p. 131). Prayer appears to have guided Rekers’ selection of behavior therapy as a treatment modality for the treatment of his patients with childhood GID (p. 131). Money and Russo (50) wondered what the course of psychosexual differentiation might be if “a group of boys with discordance of gender identity/role [were] transferred from the home of origin to, say, a children’s recovery center or foster home...as happens in the case of child-abuse dwarfism...” (p. 40). In our own clinic, although some parents might have desired or requested that treatment be designed in order to prevent homosexuality, this was a goal that we never endorsed [see (136), pp. 391–393]. Over the years, many secular-minded

In our own sample, the kinds of treatments that the boys received, if any, were quite variable but it is beyond the scope of this article to describe them in general [however, for examples, see (136, 140, 141)]. It can, however, be said with certainty that the vast majority of boys were seen during a particular period of time when the therapeutic approach of recommending or supporting a gender social transition prior to puberty was not made. Indeed, in the current study, there was only one patient who had socially transitioned prior to puberty (at the suggestion and support of the professionals involved in this individual's care) and this particular patient was one of the persisters with a biphilic/androphilic sexual orientation. Second, it should also be recognized that, for the boys seen in the current study, none who were in late childhood and had (likely) entered puberty (Tanner Stage 2) had received puberty-blocking hormone treatment (GnRH analogs) to suppress somatic masculinization (142, 143) until sometime during adolescence.

In contrast, in recent years, it has become more common for some clinicians to recommend a gender social transition prior to puberty [e.g., (69, 144–147); for discussion, see (148–150)]. It has also become more common for parents to have already implemented a gender social transition on their own, without any formal input from a health professional (151). As argued by Zucker (64, 152), this is a very different type of psychosocial treatment designed to reduce gender dysphoria when compared to the other kinds of treatments noted above that have been recommended over the years.

The study by Steensma et al. (51), which found the highest rate of persistence, included some patients who had made a partial or complete gender social transition prior to puberty and this variable proved to be a unique predictor of persistence (see the Introduction). Rae et al. (153) recruited from a variety of community groups a sample of 85 markedly gender non-conforming children (Mean age, 7.5 years), none of whom had socially transitioned at a baseline assessment. At the time of follow-up, at a mean of 2.1 years later, 36 (42.3%) had socially transitioned and 49 (57.6%) had not. Using a composite of various metrics of gender identity and gender role behaviors, Rae et al. found that those who subsequently socially transitioned had more extreme gender-variant behavior at baseline than those who had not. Thus, this short-term follow-up study was consistent

with the longer-term findings reported on by Wallien and Cohen-Kettenis (52), Steensma et al. (51), and the present study.

To date, however, there are no long-term follow-up studies of clinic-referred samples of children who had all socially transitioned prior to puberty. Future follow-up studies should be able to capture a much larger subgroup of such children and compared to those who have not with regard to long-term outcome with regard to persistence and desistance [e.g., (154)]. The persistence-desistance rates found in this study and the ones preceding it can be used as a comparative benchmark for samples in which a social transition took place prior to puberty.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The research protocol was reviewed and approved by Clarke Institute of Psychiatry (subsequently the Centre for Addiction and Mental Health) and the University of Toronto. All participants who completed the face-to-face assessment gave written informed consent.

AUTHOR CONTRIBUTIONS

DS contributed to the conceptualization, data collection, data analysis, interpretation, and writing of the paper. SB contributed to the conceptualization and interpretation of the study. KZ contributed to the conceptualization, data collection, data analysis, interpretation, and writing of the paper. All authors contributed to the article and approved the submitted version.

FUNDING

DS was supported by an Ontario Graduate Scholarship (2008–2009, 2009–2010, 2010–2011) and the Social Sciences Humanities Research Council (2010–2011). Funding for this study was provided, in part, by the Laidlaw Foundation and internal research funds from the Clarke Institute of Psychiatry.

ACKNOWLEDGMENTS

This article is based on DS's doctoral dissertation at the University of Toronto. Preliminary versions of this article were presented at the 1989 meeting of the Society for Research in Child and Adolescent Psychopathology, Miami Beach, Florida and the 2010 Gender Development Research Conference, San Francisco, California.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fpsy.2021.632784/full#supplementary-material>

clinicians—although clearly opposed to any type of preventive efforts with regard to sexual orientation—argued in favor of reducing gender dysphoria vis-à-vis natal sex, if that was feasible. Meyer-Bahlburg (125), for example, wrote: "...we cannot rule out the possibility that early successful treatment of childhood GID will diminish the role of a continuation of GID into adulthood. If so, successful treatment would also reduce the need for the long and difficult process of sex reassignment which includes hormonal and surgical procedures with substantial medical risks and complications" (p. 362). Along similar lines, Cohen-Kettenis and Pfäfflin (33) remarked: "Relatively little dispute exists regarding the prevention of transsexualism, though evidence about the effectiveness of treatment in preventing adult transsexualism is also virtually nonexistent" (p. 120). In more recent years, what the best-practice should be for the treatment of gender dysphoria in children has been widely discussed and debated, which highlight the various limitations of treatment effectiveness studies (137–139).

REFERENCES

1. Lewis M. Self-knowledge: a Social cognitive perspective on gender identity and sex-role development. In: Lamb ME, Sherrod LR, editors. *Infant Social Cognition: Empirical and Theoretical Considerations*. Hillsdale, NJ: Lawrence Erlbaum Associates (1981). p. 395–414.
2. Maccoby EE. Gender as a social category. *Dev Psychol.* (1988) 24:755–65. doi: 10.1037/0012-1649.24.6.755
3. Ruble DN, Martin CL, Berenbaum SA. Gender development. In: Damon W, Lerner RM, Eisenberg M, editors. *Handbook of Child Psychology: Vol. 3. Social, Emotional, and Personality Development*, 6th ed. New York, NY: Wiley (2006). p. 858–932.
4. Stoller RJ. The sense of maleness. *Psychoanal Q.* (1965) 34:207–18. doi: 10.1080/21674086.1965.11926345
5. Stoller RJ. The sense of femaleness. *Psychoanal Q.* (1968) 37:42–55. doi: 10.1080/21674086.1968.11926450
6. Zucker KJ, VanderLaan DP. The self in gender dysphoria: a developmental perspective. In: Kyrios M, Moulding R, Doron G, Bhar SS, Nedeljkovic M, Mikulincer M, editors. *The Self in Understanding and Treating Psychological Disorders*. Cambridge: Cambridge University Press (2016). p. 222–32. doi: 10.1017/CBO9781139941297.023
7. Turner KL, Brown CS. The centrality of gender and ethnic identities across individuals and contexts. *Soc Dev.* (2007) 16:701–19. doi: 10.1111/j.1467-9507.2007.00403.x
8. Matei A. Raising a Theybie: The Parent Who Wants Their Child to Grow Up Gender-Free. *The Guardian* (2020). Retrieved from: <https://www.theguardian.com/lifeandstyle/2020/jul/08/parent-raising-gender-free-child>
9. Myers K. *Raising Them: Our Adventure in Gender Creative Parenting*. New York, NY: TOPPLE Books/Little A (2020).
10. Witterick K. Dancing in the eye of the storm: the gift of gender diversity to our family. In: Green FG, Friedman M, editors. *Chasing Rainbows: Exploring Gender Fluid Parenting Practices*. Bradford, ON: Demeter Press (2013). p. 21–42.
11. Kleeman JA. The establishment of core gender identity in normal girls. I (a) Introduction; (b) Development of the ego capacity to differentiate. *Archiv Sexual Behav.* (1971) 1:103–16. doi: 10.1007/BF01541055
12. Martin CL, Ruble DN, Szkrybalo J. Cognitive theories of early gender development. *Psychol Bull.* (2002) 128:903–33. doi: 10.1037/0033-2909.128.6.903
13. Paluszny M, Beit-Hallahmi B, Catford JC, Cooley RE, Dull CY, Guiora AZ. Gender identity and its measurement in children. *Compreh Psychiatry.* (1973) 14:281–90. doi: 10.1016/S0010-440X(73)80022-7
14. Slaby RG, Frey KS. Development of gender constancy and selective attention to same-sex models. *Child Dev.* (1975) 46:849–56. doi: 10.2307/1128389
15. Kohlberg L. A cognitive-developmental analysis of children's sex-role concepts and attitudes. In: Maccoby EE, editor. *The Development of Sex Differences*. Stanford, CA: Stanford University Press (1966). p. 82–173.
16. Zucker KJ, Bradley SJ, Kusis M, Pecore K, Birkenfeld-Adams A, Doering RW, et al. Gender constancy judgments in children with gender identity disorder: evidence for a developmental lag. *Archiv Sexual Behav.* (1999) 28:475–502. doi: 10.1023/A:1018713115866
17. Fagot BI, Leinbach MD, Hagan R. Gender labelling and adoption of sex-typed behaviors. *Dev Psychol.* (1986) 22:440–3. doi: 10.1037/0012-1649.22.4.440
18. Zucker KJ. Measurement of psychosexual differentiation. *Archiv Sexual Behav.* (2005) 34:375–88. doi: 10.1007/s10508-005-4336-7
19. Hines M. *Brain Gender*. Oxford: Oxford University Press (2004).
20. Owen Blakemore JE, Berenbaum SA, Liben LS. *Gender Development*. New York, NY: Taylor & Francis Group (2009).
21. Weisgram ES, Dinella LM, editors. *Gender Typing of Children's Toys: How Early Play Experiences Impact Development*. Washington, DC: American Psychological Association (2018).
22. Lippa RA. Gender-related traits in gay men, lesbian women, and heterosexual men and women: the virtual identity of homosexual-heterosexual diagnosticity and gender diagnosticity. *J Pers.* (2000) 68:899–926. doi: 10.1111/1467-6494.00120
23. Bakwin H. Transvestism in children. *J Pediatr.* (1960) 56:294–8. doi: 10.1016/S0022-3476(60)80128-X
24. Friend MR, Schiddel L, Klein B, Dunaeff D. Observations on the development of transvestitism in boys. *Am J Orthopsychiatry.* (1954) 24:563–75. doi: 10.1111/j.1939-0025.1954.tb06128.x
25. Green R, Money J. Incongruous gender role: nongenital manifestations in prepubertal boys. *J Nerv Ment Dis.* (1960) 131:160–8. doi: 10.1097/00005053-196008000-00009
26. Stoller RJ. Male childhood transsexualism. *J Am Acad Child Psychiatry.* (1968) 7:193–209. doi: 10.1016/S0002-7138(09)62167-1
27. Zuger B. Effeminate behavior present in boys from early childhood I. The clinical syndrome and follow-up studies. *J Pediatr.* (1966) 69:1098–107. doi: 10.1016/S0022-3476(66)80301-3
28. Stoller RJ. *Sex and Gender (Vol. I). The Development of Masculinity and Femininity*. New York, NY: Jason Aronson (1968).
29. Green R. *Sexual Identity Conflict in Children and Adults*. New York, NY: Basic Books (1974).
30. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed. Washington, DC: American Psychiatric Association (1980).
31. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. Arlington, VA: American Psychiatric Press (2013).
32. Coates S. Ontogenesis of boyhood gender identity disorder. *J Am Acad Psychoanal.* (1990) 18:414–38. doi: 10.1521/jaap.1.1990.18.3.414
33. Cohen-Kettenis PT, Pfäfflin F. *Transgenderism and Intersexuality in Childhood and Adolescence: Making Choices*. Thousand Oaks, CA: Sage (2003).
34. de Vries ALC, Kreukels BPC, Steensma TD, McGuire JK. Gender identity development: a biopsychosocial perspectives. In: Kreukels BPC, Steensma TD, de Vries ALC, editors. *Gender Dysphoria and Disorders of Sex Development: Progress in Care and Knowledge*. New York, NY: Springer (2014). p. 53–80. doi: 10.1007/978-1-4614-7441-8_3
35. Spivey LA, Edwards-Leeper L. Future directions in affirmative psychological interventions with transgender children and adolescents. *J Clin Child Adolesc Psychol.* (2019) 48:343–56. doi: 10.1080/15374416.2018.1534207
36. Turban JL, Ehrensaft D. Gender identity in youth: treatment paradigms and controversies. *J Child Psychol Psychiatry.* (2018) 59:1228–43. doi: 10.1111/jcpp.12833
37. Zucker KJ. Gender identity disorder in children and adolescents. *Annu Rev Clin Psychol.* (2005) 1:467–92. doi: 10.1146/annurev.clinpsy.1.102803.144050
38. Zucker KJ. Gender dysphoria. In: Lewis M, Rudolph KD, editors. *Handbook of Developmental Psychopathology*, 3rd ed. New York, NY: Springer (2014). p. 683–702. doi: 10.1007/978-1-4614-9608-3_35
39. Zucker KJ, Bradley SJ. *Gender Identity Disorder and Psychosexual Problems in Children and Adolescents*. New York, NY: Guilford Press (1995).
40. Green R. The behaviorally feminine male child: pretranssexual? Pretransvestic? Prehomosexual? Preheterosexual? In: Friedman RC, Richart RM, Vande Wiele RL, editors. *Sex Differences in Behavior*. New York, NY: John Wiley & Sons (1974). p. 301–14.
41. Bell AP, Weinberg MS, Hammersmith SK. *Sexual Preference: Its Development in Men and Women*. Bloomington: Indiana University Press (1981).
42. Whitam F. Childhood indicators of male homosexuality. *Archiv Sexual Behav.* (1977) 6:89–96. doi: 10.1007/BF01541701
43. Bailey JM, Zucker KJ. Childhood sex-typed behavior and sexual orientation: a conceptual analysis and quantitative review. *Dev Psychol.* (1995) 31:43–55. doi: 10.1037/0012-1649.31.1.43
44. Bakwin H. Deviant gender-role behavior in children: relation to homosexuality. *Pediatrics.* (1968) 41:620–9.
45. Davenport CW. A follow-up study of 10 feminine boys. *Archiv Sexual Behav.* (1986) 15:511–7. doi: 10.1007/BF01542316
46. Drummond KD, Bradley SJ, Peterson-Badali M, Zucker KJ. A follow-up study of girls with gender identity disorder. *Dev Psychol.* (2008) 44:34–45. doi: 10.1037/0012-1649.44.1.34
47. Green R. *The "Sissy Boy Syndrome" and the Development of Homosexuality*. New Haven, CT: Yale University Press (1987).
48. Kosky RJ. Gender-disordered children: does inpatient treatment help? *Med J Aust.* (1987) 146:565–9. doi: 10.5694/j.1326-5377.1987.tb120415.x
49. Lebovitz PS. Feminine behavior in boys: aspects of its outcome. *Am J Psychiatry.* (1972) 128:1283–9. doi: 10.1176/ajp.128.10.1283

50. Money J, Russo AJ. Homosexual outcome of discordant gender identity/role in childhood: longitudinal follow-up. *J Pediatr Psychol.* (1979) 4:29–41. doi: 10.1093/jpepsy/4.1.29
51. Steensma TD, McGuire JK, Kreukels BPC, Beekman AJ, Cohen-Kettenis PT. Factors associated with desistance and persistence of childhood gender dysphoria: A quantitative follow-up study. *J Am Acad Child Adolesc Psychiatry.* (2013) 52:582–90. doi: 10.1016/j.jaac.2013.03.016
52. Wallien MSC, Cohen-Kettenis PT. Psychosexual outcome of gender dysphoric children. *J Am Acad Child Adolesc Psychiatry.* (2008) 47:1413–23. doi: 10.1097/CHI.0b013e31818956b9
53. Zuger B. Effeminate behavior present in boys from childhood: ten additional years of follow-up. *Compreh Psychiatry.* (1978) 19:363–9. doi: 10.1016/0010-440X(78)90019-6
54. August GJ, Realmuto GM, Joyce T, Hektner JM. Persistence and desistance of oppositional defiant disorder in a community sample of children with ADHD. *J Am Acad Child Adolesc Psychiatry.* (1999) 38:1262–70. doi: 10.1097/00004583-199910000-00015
55. Zucker KJ. Persistence and desistance of gender identity disorder in children [Discussant]. In: *Paper Presented at the Meeting of the Harry Benjamin International Gender Dysphoria Association*, Gent, Belgium (2003).
56. Cantor JM. Transgender and gender diverse children and adolescents: fact-checking of AAP policy. *J Sex Marit Ther.* (2020) 46:307–13. doi: 10.1080/0092623X.2019.1698481
57. Ristori J, Steensma TD. Gender dysphoria in childhood. *Int Rev Psychiatry.* (2016) 28:13–20. doi: 10.3109/09540261.2015.1115754
58. Zuger B. Early effeminate behavior in boys: outcome and significance for homosexuality. *J Nerv Ment Dis.* (1984) 172:90–7. doi: 10.1097/00005053-198402000-00005
59. Nakamura H. *Follow-up study of children and adolescents with gender identity development issues who attended the specialist Gender Identity Development Unit (GIDU) and who are now 18 or older* (Unpublished dissertation), University of Essex, Essex, United Kingdom (2007).
60. Rafferty J, Committee on Psychosocial Aspects of Child and Family Health, Committee on Adolescence, and Section on Lesbian, Gay, Bisexual, and Transgender Health and Wellness. Ensuring comprehensive care and support for transgender and gender-diverse children and adolescents. *Pediatrics.* (2018) 142:e20182162. doi: 10.1542/peds.2018-2162
61. Tannehill B. The End of the Desistance Myth. *Huffpost* (2016). Retrieved from: https://www.huffingtonpost.com/brynn-tannehill/the-end-of-the-desistance_b_8903690.html
62. Temple Newhook J, Pyne J, Winters K, Feder S, Holmes C, Tosh J, et al. A critical commentary on follow-up studies and “desistance” theories about transgender and gender-nonconforming children. *Int J Transgen.* (2018) 19:212–24. doi: 10.1080/15532739.2018.1456390
63. Winters K. The “80% desistance dictum: is it science? In: Lev AI, Gottlieb AR, editors. *Families in Transition: Parenting Gender Diverse Children, Adolescents, and Young Adults*. New York, NY: Harrington Park Press (2019). p. 88–101.
64. Zucker KJ. The myth of persistence: Response to “A Critical Commentary on Follow-Up Studies and Desistance Theories about Transgender and Gender Non-Conforming Children” by Temple Newhook et al. (2018). *Int J Transgen.* (2018) 19:231–45. doi: 10.1080/15532739.2018.1468293
65. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed. rev. Washington, DC: American Psychiatric Association (1987).
66. Zucker KJ. The DSM diagnostic criteria for gender identity disorder in children. *Archiv Sexual Behav.* (2010) 39:477–98. doi: 10.1007/s10508-009-9540-4
67. Zucker KJ, Cohen-Kettenis PT, Drescher J, Meyer-Bahlburg HFL, Pfäfflin F, Womack WM. Memo outlining evidence for change for gender identity disorder in the DSM-5. *Archiv Sexual Behav.* (2013) 42:901–14. doi: 10.1007/s10508-013-0139-4
68. Fast AA, Olson KR. Gender development in transgender preschool children. *Child Dev.* (2018) 89:620–37. doi: 10.1111/cdev.12758
69. Meadow T. *Trans Kids: Being Gendered in the Twenty-First Century*. Berkeley, CA: University of California Press (2018).
70. Olson KR. Prepubescent transgender children: what we do and do not know. *J Am Acad Child Adolesc Psychiatry.* (2016) 55:155–6. doi: 10.1016/j.jaac.2015.11.015
71. Soares C, editor. *The Oxford Dictionary of Current English*, 3rd ed. Oxford: Oxford University Press (2001).
72. Blanchard R, Zucker KJ, Cavacas A, Allin S, Bradley SJ, Schachter DC. Fraternal birth order and birth weight in probably prehomosexual feminine boys. *Horm Behav.* (2002) 41:321–7. doi: 10.1006/hbeh.2002.1765
73. Bouman WP, Suess Schwend A, Motmans J, Smily A, Safer JD, Deutsch MB, et al. Language and trans health. *Int J Transgen.* (2017) 18:1–6. doi: 10.1080/15532739.2016.1262127
74. Intons-Peterson MJ, Reddel M. What do people ask about a neonate? *Dev Psychol.* (1984) 20:358–9. doi: 10.1037/0012-1649.20.3.358
75. Bradley SJ, Steiner BW, Zucker K, Doering RW, Sullivan J, Finegan JK, et al. Gender identity problems of children and adolescents: the establishment of a special clinic. *Can Psychiatr Assoc J.* (1978) 23:175–83. doi: 10.1177/070674377802300309
76. Zucker KJ. Comment on “Serving Transgender Youth: Challenges, Dilemmas, and Clinical Examples” by Tishelman et al. (2015). *Prof Psychol Res Pract.* (2015) 46:306. doi: 10.1037/pro0000030
77. Singh D. *A follow-up study of boys with gender identity disorder* (Unpublished doctoral dissertation), University of Toronto, Toronto, ON, Canada (2012).
78. Hollingshead AB. *Four Factor Index of Social Status*. Unpublished manuscript. New Haven, CT: Department of Sociology, Yale University (1975).
79. Achenbach TM. *Manual for the Child Behavior Checklist/4-18 and 1991 Profile*. Burlington, VT: University of Vermont Department of Psychiatry (1991).
80. Zucker KJ, Finegan JK, Doering RW, Bradley SJ. Human figure drawings of gender-problem children: a comparison to siblings, psychiatric, and normal controls. *J Abnorm Child Psychol.* (1983) 11:287–98. doi: 10.1007/BF00912092
81. Zucker KJ, Doering RW, Bradley SJ, Finegan JK. Sex-typed play in gender-disturbed children: a comparison to sibling and psychiatric controls. *Archiv Sexual Behav.* (1982) 11:309–21. doi: 10.1007/BF01541592
82. Alexander GM, Hines M. Gender labels and play styles: their relative contribution to children’s selections of playmates. *Child Dev.* (1994) 65:869–79. doi: 10.2307/1131424
83. Fridell SR, Owen-Anderson A, Johnson LL, Bradley SJ, Zucker KJ. The playmate and play style preferences structured interview: a comparison of children with gender identity disorder and controls. *Archiv Sexual Behav.* (2006) 35:729–37. doi: 10.1007/s10508-006-9085-8
84. Zucker KJ, Lozinski JA, Bradley SJ, Doering RW. Sex-typed responses in the Rorschach protocols of children with gender identity disorder. *J Pers Assess.* (1992) 58:295–310. doi: 10.1207/s15327752jpa5802_9
85. Zucker KJ, Bradley SJ, Lowry Sullivan CB, Kuksis M, Birkenfeld-Adams A, Mitchell JN. A gender identity interview for children. *J Pers Assess.* (1993) 61:443–56. doi: 10.1207/s15327752jpa6103_2
86. Wallien MSC, Quilty LC, Steensma TD, Singh D, Lambert SL, Leroux A, et al. Cross-national replication of the gender identity interview for children. *J Pers Assess.* (2009) 91:545–52. doi: 10.1080/00223890903228463
87. Zucker KJ. Gender identity interview for children. In: Milhausen RR, Sakaluk JK, Fisher TD, Davis CM, Yarber WL, editors. *Handbook of Sexuality-Related Measures*, 4th ed. New York, NY: Routledge (2020). p. 325–8.
88. Cohen-Kettenis PT, Wallien M, Johnson LL, Owen-Anderson AFH, Bradley SJ, Zucker KJ. A parent-report gender identity questionnaire for children: a cross-national, cross-clinic comparative analysis. *Clin Child Psychol Psychiatry.* (2006) 7:433–56. doi: 10.1177/1359104506059135
89. Johnson LL, Bradley SJ, Birkenfeld-Adams AS, Kuksis MAR, Maing DM, Mitchell JN, et al. A parent-report gender identity questionnaire for children. *Archiv Sexual Behav.* (2004) 33:105–16. doi: 10.1023/B:ASEB.0000014325.68094.f3
90. Zucker KJ. Gender identity questionnaire for children. In: Milhausen RR, Sakaluk JK, Fisher TD, Davis CM, Yarber WL, editors. *Handbook of Sexuality-Related Measures*, 4th ed. New York, NY: Routledge (2020). p. 329–34.
91. Spencer D, Pasterski V, Neufeld S, Glover V, O’Connor TG, Hindmarsh PC, et al. Prenatal androgen exposure and children’s

- aggressive behavior and activity level. *Horm Behav.* (2007) 96:156–65. doi: 10.1016/j.yhbeh.2017.09.012
92. Zucker KJ, Wood H. Assessment of gender variance in children. *Child Adolesc Psychiatr Clin N Am.* (2011) 20:665–80. doi: 10.1016/j.chc.2011.07.006
 93. Sattler JM. *Assessment of Children: Cognitive Applications*, 4th ed. San Diego, CA: Jerome M. Sattler Publisher, Inc. (2001).
 94. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. Washington, DC: American Psychiatric Association (1994).
 95. Deogracias JJ, Johnson LL, Meyer-Bahlburg HFL, Kessler SJ, Schober JM, Zucker KJ. The gender identity/gender dysphoria questionnaire for adolescents and adults. *J Sex Res.* (2007) 44:370–9. doi: 10.1080/00224490701586730
 96. Singh D, Deogracias JJ, Johnson LL, Bradley SJ, Kibblewhite SJ, Meyer-Bahlburg HFL, et al. The gender identity/gender dysphoria questionnaire for adolescents and adults: further validity evidence. *J Sex Res.* (2010) 47:49–58. doi: 10.1080/00224490902898728
 97. Zucker KJ, Meyer-Bahlburg HFL, Kessler SJ, Schober J. Gender identity/gender dysphoria questionnaire for adolescents and adults. In: Milhausen RR, Sakaluk JK, Fisher TD, Davis CM, Yarber WL, editors. *Handbook of Sexuality-Related Measures*, 4th ed. New York, NY: Routledge (2020). p. 343–50.
 98. Zucker KJ, Bradley SJ, Oliver G, Blake J, Fleming S, Hood J. Psychosexual development of women with congenital adrenal hyperplasia. *Horm Behav.* (1996) 30:300–18. doi: 10.1006/hbeh.1996.0038
 99. Schneider C, Cerwenka S, Nieder TO, Briken P, Cohen-Kettenis PT, De Cuypere G, et al. Measuring gender dysphoria: a multicenter examination and comparison of the Utrecht gender dysphoria scale and the gender identity/gender dysphoria questionnaire for adolescents and adults. *Archiv Sexual Behav.* (2016) 45:551–8. doi: 10.1007/s10508-016-0702-x
 100. Siegmann EM, Müller T, Dziadek I, Mühle C, Lenz B, Kornhuber J. Digit ratio (2D:4D) and transgender identity: new original data and a meta-analysis. *Sci Rep.* (2020) 10:19326. doi: 10.1038/s41598-020-72486-6
 101. Zucker KJ, Bradley SJ, Owen-Anderson A, Kibblewhite SJ, Wood H, Singh D, et al. Demographics, behavior problems, and psychosexual characteristics of adolescents with gender identity disorder or transvestic fetishism. *J Sex Marital Ther.* (2012) 38:151–89. doi: 10.1080/0092623X.2011.611219
 102. Zucker KJ, Bradley SJ, Owen-Anderson A, Singh D, Blanchard R, Bain J. Puberty-blocking hormonal therapy for adolescents with gender identity disorder: a descriptive clinical study. *J Gay Lesbian Mental Health.* (2011) 15:58–82. doi: 10.1080/19359705.2011.530574
 103. Storms MD. Theories of sexual orientation. *J Pers Soc Psychol.* (1980) 38:783–92. doi: 10.1037/0022-3514.38.5.783
 104. Kinsey AC, Pomeroy WB, Martin CE. *Sexual Behavior in the Human Male*. Philadelphia, PA: W. B. Saunders (1948).
 105. Langevin R. *Sexual Strands: Understanding and Treating Sexual Anomalies in Men*. Hillsdale, NJ: Erlbaum (1985).
 106. King ME, Brunner GC. Social desirability bias: a neglected aspect of validity testing. *Psychol Market.* (2000) 17:79–103. doi: 10.1002/(SICI)1520-6793(200002)17:2<79::AID-MAR2>3.0.CO;2-0
 107. Crowne DP, Marlowe D. A new scale of social desirability independent of psychopathology. *J Consult Psychol.* (1960) 24:349–54. doi: 10.1037/h0047358
 108. Strahan R, Gerbasi KC. Short, homogeneous versions of Marlowe-Crowne social desirability scale. *J Clin Psychol.* (1972) 28:191–3. doi: 10.1002/1097-4679(197204)28:2<191::AID-JCLP2270280220>3.0.CO;2-G
 109. Holden RR, Fekken GC. Three common social desirability scales: friends, acquaintances, or strangers? *J Res Pers.* (1989) 23:180–91. doi: 10.1016/0092-6566(89)90022-6
 110. Silverthorn NA, Gekoski WL. Social desirability effects on measures of adjustment to university, independence from parents, and self-efficacy. *J Clin Psychol.* (1995) 51:244–251. doi: 10.1002/1097-4679(199503)51:2<244::AID-JCLP2270510214>3.0.CO;2-Q
 111. Campbell DT, Stanley JC. *Experimental and Quasi-Experimental Designs for Research*. Chicago, IL: Rand McNally & Company (1969).
 112. Coleman E, Bockting W, Botzer M, Cohen-Kettenis P, DeCuypere G, Feldman J, et al. Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *Int J Transgen.* (2011) 13:165–232. doi: 10.1080/15532739.2011.700873
 113. Arcelus J, Bouman WP, Van Den Noortgate W, Claes L, Witcomb G, Fernandez-Aranda F. Systematic review and meta-analysis of prevalence studies in transsexualism. *Eur Psychiatry.* (2015) 30:807–15. doi: 10.1016/j.eurpsy.2015.04.005
 114. Zhang Q, Goodman M, Adams N, Corneil T, Hashemid L, Kreukels B, et al. Epidemiological considerations in transgender health: a systematic review with focus on higher quality data. *Int J Transgen.* (2020) 21:125–37. doi: 10.1080/26895269.2020.1753136
 115. DeMaris A. *Logit Modeling: Practical Applications*. Newbury Park, CA: Sage (1992).
 116. Benjamin DJ, Berger JO, Johannesson M, Nosek BA, Wagenmakers EJ, Berk R, et al. Redefine statistical significance. *Nat Hum Behav.* (2018) 2:6–10. doi: 10.1038/s41562-017-0189-z
 117. Steensma TD, Cohen-Kettenis PT. More than two developmental pathways in children with gender dysphoria? *J Am Acad Child Adolesc Psychiatry.* (2015) 54:147–8. doi: 10.1016/j.jaac.2014.10.016
 118. Li G, Kung KTF, Hines M. Childhood gender-typed behavior and adolescent sexual orientation: a longitudinal population-based study. *Dev Psychol.* (2017) 53:764–77. doi: 10.1037/dev0000281
 119. Steensma TD, van der Ende J, Verhulst FC, Cohen-Kettenis PT. Gender variance in childhood and sexual orientation in adulthood: a prospective study. *J Sex Med.* (2013) 10:2723–33. doi: 10.1111/j.1743-6109.2012.02701.x
 120. Xu Y, Norton S, Rahman Q. Childhood maltreatment, gender nonconformity, and adolescent sexual orientation: a prospective birth cohort study. *Child Dev.* (2020) 91:e984–94. doi: 10.1111/cdev.13317
 121. Nyberg KL, Alston JP. Analysis of public attitudes towards homosexuality. *J Homosex.* (1976) 2:99–107. doi: 10.1300/J082v02n02_01
 122. Hellman RE, Green R, Gray JL, Williams K. Childhood sexual identity, childhood religiosity, and 'homophobia' as influences in the development of transsexualism, homosexuality, and heterosexuality. *Archiv Gen Psychiatry.* (1981) 38:910–5. doi: 10.1001/archpsyc.1981.01780330068007
 123. Zucker KJ, Owen A, Bradley SJ, Ameerliar L. Gender-dysphoric children and adolescents: a comparative analysis of demographic characteristics and behavior problems. *Clin Child Psychol Psychiatry.* (2002) 7:398–411. doi: 10.1177/1359104502007003007
 124. Green R, Newman LE, Stoller RJ. Treatment of boyhood "transsexualism." An interim report of four years' experience. *Archiv Gen Psychiatry.* (1972) 26:213–7. doi: 10.1001/archpsyc.1972.01750210021003
 125. Meyer-Bahlburg HFL. Gender identity disorder in young boys: a parent- and peer-based treatment protocol. *Clin Child Psychol Psychiatry.* (2002) 7:360–76. doi: 10.1177/1359104502007003005
 126. Newman LE. Treatment for the parents of feminine boys. *Am J Psychiatry.* (1976) 133:683–7. doi: 10.1176/ajp.133.6.683
 127. Zucker KJ. Cross-gender-identified children. In: Steiner BW, editor. *Gender Dysphoria: Development, Research, Management*. New York, NY: Plenum Press (1985). p. 75–174. doi: 10.1007/978-1-4684-4784-2_4
 128. Zucker KJ. Gender identity disorder in children and adolescents. In: Gabbard GO, editor. *Treatments of Psychiatric Disorders*, 3rd ed., Vol. 2. Washington, DC: American Psychiatric Press (2001). p. 2069–94.
 129. Drescher J, Pula J. Ethical issues raised by the treatment of gender-variant prepubescent children. *Hast Center Rep.* (2014) 44:S17–22. doi: 10.1002/hast.365
 130. Giordano S. *Children With Gender Identity Disorder: A Clinical, Ethical, and Legal Analysis*. New York, NY: Taylor & Francis Group (2013).
 131. Pleak RR. Ethical issues in diagnosing and treating gender-dysphoric children and adolescents. In: Rottnek M, editor. *Sissies and Tomboys: Gender Nonconformity and Homosexual Childhood*. New York, NY: New York University Press (1999). p. 34–51.
 132. Stein E. Commentary on the treatment of gender variant and gender dysphoric children and adolescents: common themes and ethical reflections. *J Homosex.* (2012) 59:480–500. doi: 10.1080/00918369.2012.653316
 133. Zucker KJ. Treatment of gender identity disorders in children. In: Blanchard R, Steiner BW, editors. *Clinical Management of Gender Identity Disorders in Children and Adults*. Washington, DC: American Psychiatric Press (1990). p. 25–45.

134. Rekers GA, Lovaas OL. Behavioral treatment of deviant sex role behaviors in a male child. *J Appl Behav Anal.* (1974) 7:173–90. doi: 10.1901/jaba.1974.7-173
135. Rekers GA. *Shaping Your Child's Sexual Identity*. Grand Rapids, MI: Baker Book House (1982).
136. Zucker KJ, Wood H, Singh D, Bradley SJ. A developmental, biopsychosocial model for the treatment of children with gender identity disorder. *J Homosex.* (2012) 59:369–97. doi: 10.1080/00918369.2012.653309
137. American Academy of Child and Adolescent Psychiatry. Practice parameter on gay, lesbian, or bisexual sexual orientation, gender nonconformity, and gender discordance in children and adolescents. *J Am Acad Child Adolesc Psychiatry.* (2012) 51:957–74. doi: 10.1016/j.jaac.2012.07.004
138. American Psychological Association. Guidelines for psychological practice with transgender and gender nonconforming people. *Am Psychol.* (2015) 70:832–864. doi: 10.1037/a0039906
139. Byne W, Bradley SJ, Coleman E, Eyler AE, Green R, Menvielle EJ, et al. Report of the American Psychiatric Association Task Force on treatment of gender identity disorder. *Archiv Sexual Behav.* (2012) 41:759–96. doi: 10.1007/s10508-012-9975-x
140. Zucker KJ. Gender identity disorder. In: Weiner IB, editor. *Adult Psychopathology Case Studies*. New York, NY: Wiley (2004). p. 207–28.
141. Zucker KJ. “I’m half-boy, half-girl”: play psychotherapy and parent counseling for gender identity disorder. In: Spitzer RL, First MB, Williams JBW, Gibbons M, editors. *DSM-IV-TR® Casebook, Volume 2. Experts Tell How They Treated Their Own Patients*. Washington, DC: American Psychiatric Publishing (2006). p. 321–34.
142. Cohen-Kettenis PT, van Goozen SHM. Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent. *Eur Child Adolesc Psychiatry.* (1998) 7:246–8. doi: 10.1007/s007870050073
143. Gooren L, Delemarre-van de Waal H. The feasibility of endocrine interventions in juvenile transsexuals. *J Psychol Hum Sex.* (1996) 8:69–84. doi: 10.1300/J056v08n04_05
144. Ehrensaft D. Found in transition: our littlest transgender people. *Contemp Psychoanal.* (2014) 50:571–92. doi: 10.1080/00107530.2014.942591
145. Ehrensaft D. Treatment paradigms for prepubertal children. In: Forcier M, Van Schalkwyk G, Turban JL, editors. *Pediatric Gender Identity: Gender-Affirming Care for Transgender & Gender Diverse Youth*. New York, NY: Springer (2020). p. 171–85. doi: 10.1007/978-3-030-38909-3_13
146. Wong W, Chang SCH. Social transitioning for gender dysphoric children. In: Lev AI, Gottlieb AR, editors. *Families in Transition: Parenting Gender Diverse Children, Adolescents, and Young Adults*. New York, NY: Harrington Park Press (2019). p. 356–73.
147. Wong WI, van der Miesen AIR, Li TGF, MacMullin LN, VanderLaan DP. Childhood social gender transition and psychosocial well-being: a comparison to cisgender gender-variant children. *Clin Pract Pediatr Psychol.* (2019) 7:241–53. doi: 10.1037/cpp0000295
148. Chen D, Edwards-Leeper L, Stancin T, Tishelman A. Advancing the practice of pediatric psychology with transgender youth: state of the science, ongoing controversies, and future directions. *Clin Pract Pediatr Psychol.* (2018) 6:73–83. doi: 10.1037/cpp0000229
149. Dreger A. Gender identity disorder in childhood: inconclusive advice to parents. *Hast Center Rep.* (2009) 39:26–9. doi: 10.1353/hcr.0.0102
150. Green R. To transition or not to transition? That is the question. *Curr Sexual Health Rep.* (2017) 9:79–83. doi: 10.1007/s11930-017-0106-5
151. Olson KR, Blotner C, Alonso D, Lewis K, Edwards D, Durwood L. Family discussions of early childhood social transitions. *Clin Pract Pediatr Psychol.* (2019) 7:22–40. doi: 10.1037/cpp0000289
152. Zucker KJ. Different strokes for different folks. *Child Adolesc Mental Health.* (2020) 25:36–7. doi: 10.1111/camh.12330
153. Rae JR, Gulgoz S, Durwood L, DeMeules M, Lowe R, Lindquist G, et al. Predicting early-childhood gender transitions. *Psychol Sci.* (2019) 30:669–81. doi: 10.1177/0956797619830649
154. Tollit MA, Pace CC, Telfer M, Hoq M, Bryson J, Fulkoski N, et al. What are the health outcomes of trans and gender diverse young people in Australia? Study protocol for the Trans20 longitudinal cohort study. *BMJ Open.* (2019) 9:e032151. doi: 10.1136/bmjopen-2019-032151

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The reviewer RB declared a past co-authorship with one of the authors KZ to the handling Editor.

Copyright © 2021 Singh, Bradley and Zucker. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.



One Size Does Not Fit All: In Support of Psychotherapy for Gender Dysphoria

Roberto D'Angelo^{1,2} · Ema Syrulnik² · Sasha Ayad² · Lisa Marchiano² · Dianna Theadora Kenny² · Patrick Clarke²

Received: 4 November 2019 / Revised: 17 September 2020 / Accepted: 19 September 2020 / Published online: 21 October 2020
© The Author(s) 2020

Turban, Beckwith, Reisner, and Keuroghlian (2020) published a study in which they set out to examine the effects of gender identity conversion on the mental health of transgender-identifying individuals. Using the data from the 2015 U.S. Transgender Survey (USTS) (James et al., 2016), they found that survey participants who responded affirmatively to the survey question, “Did any professional (such as a psychologist, counselor, religious advisor) try to make you identify only with your sex assigned at birth (in other words, try to stop you being trans)?” reported poorer mental health than those who responded negatively to the question. From this, Turban et al. concluded that gender identity conversion efforts (GICE) are detrimental to mental health and should be avoided in children, adolescents, and adults. The study’s conclusions were widely publicized by mass media outlets to advocate for legislative bans on GICE, with the study authors endorsing these calls (Bever, 2019; Fitzsimons, 2019; Turban & Keuroghlian, 2019).

We agree with Turban et al.’s (2020) position that therapies using coercive tactics to force a change in gender identity have no place in health care. We do, however, take issue with their problematic analysis and their flawed conclusions, which they use to justify the misguided notion that anything other than “affirmative” psychotherapy for gender dysphoria (GD) is harmful and should be banned. Their analysis is compromised by serious methodological flaws, including the use of a biased data sample, reliance on survey questions with poor validity, and the omission of a key control variable, namely subjects’ baseline mental health status. Further, their conclusions are not supported by their own analysis. While they claim to have found evidence that GICE is associated with

psychological distress, what they actually found was that those recalling GICE were more likely to be suffering from serious mental illness. Further, Turban et al.’s choice to interpret the said association as evidence of harms of GICE disregards the fact that neither the presence nor the direction of causation can be discerned from this study due to its cross-sectional design. In fact, an alternative explanation for the found association—that individuals with poor underlying mental health were less likely to be affirmed by their therapist as transgender—is just as likely, based on the data presented.

Arguably, even more problematic than the flawed analysis itself is the simplistic “affirmation” versus “conversion” binary, which permeates Turban et al.’s (2020) narrative and establishes the foundation for their analysis and conclusions. The notion that all therapy interventions for GD can be categorically classified into this simplistic binary betrays a misunderstanding of the complexity of psychotherapy. At best, this blunt classification overlooks a wide range of ethical and essential forms of agenda-free psychotherapy that do not fit into such a binary; at worst, it effectively mis-categorizes ethical psychotherapies that do not fit the “affirmation” descriptor as conversion therapies. Stigmatizing non-“affirmative” psychotherapy for GD as “conversion” will reduce access to treatment alternatives for patients seeking non-biomedical solutions to their distress.

We originally raised our concerns about the quality of Turban et al.’s (2020) study and the validity of their conclusions in a Letter to the Editor of *JAMA Psychiatry*, where the study had been published. However, our letter was rejected, apparently due to space limitations. In the ensuing months, as we observed Turban et al.’s unsupported claims of the harms of psychotherapy for GD taking root globally (United Nations, 2020), we felt compelled to write a more detailed critique of the study, which we present here. Our aim is to put the spotlight on the more problematic areas of Turban et al.’s analysis and to illustrate how heeding their recommendations will limit access to ethical psychotherapy for

✉ Roberto D'Angelo
roberto@robertodangelo.com

¹ Institute of Contemporary Psychoanalysis, Los Angeles, CA 90064, USA

² Society for Evidence-Based Gender Medicine, Twin Falls, ID, USA

individuals suffering from GD, further disadvantaging this already highly vulnerable population.

Biased Sample

Turban et al.'s (2020) analysis used data from the 2015 USTS survey of transgender-identifying individuals (James et al., 2016). This survey used convenience sampling, a methodology which generates low-quality data (Bornstein, Jager, & Putnick, 2013). Specifically, the participants were recruited through transgender advocacy organizations and subjects were asked to "pledge" to promote the survey among friends and family. This recruiting method yielded a large but highly skewed sample. While Turban et al. acknowledged that the USTS may not be representative of the U.S. transgender population, they treat it as a valid source of data for major policy recommendations, disregarding the significant bias in the underlying data.

To demonstrate this apparent bias, we have constructed Table 1, which compares the demographic characteristics of the USTS participants to those of transgender participants from a high-quality probability sample collected by the Centers for Disease Control Behavioral Risk Factors Surveillance System (BRFSS) (Baker, 2019; CDC, 2014–2017). As Table 1 illustrates, even after applying weighting to correct for known survey biases, the USTS participants were far more likely to be young (42% vs. 22% were 18–24 years old) and educated (47% vs. 14% had completed post-secondary education) than BRFSS participants. They were far less likely to own a home (16% vs. 55%) or to be married or coupled (18% vs. 46%). They were also much more likely to have a non-binary identity (38% vs. 22%) and a markedly different self-reported sexual orientation: Only 15% of the USTS participants reported a heterosexual orientation, compared to 69% of the BRFSS participants. (It is not clear if sexuality in either case was reported relative to one's sex or gender identity.)

A number of additional data irregularities in the USTS raise further questions about the quality of data captured by the survey. A very high number of the survey participants (nearly 40%) had not transitioned medically or socially at the time of the survey, and a significant number reported no intention to transition in the future. The information about treatments received does not appear to be accurate, as a number of respondents reported the initiation of puberty blockers after the age of 18 years, which is highly improbable (Biggs, 2020). Further, the survey had to develop special weighting due to the unexpectedly high proportion of respondents who reported that they were exactly 18 years old. These irregularities raise serious questions about the reliability of the USTS data.

In addition to these demonstrable data problems, there are a number of other biases in the USTS data that likely skewed

the responses. By targeting transgender advocacy groups, the survey underrepresented the experiences of transgender individuals who are not politically engaged. The emphasis on the survey's goals to highlight the injustices suffered by transgender people during the recruitment stage and in the introduction of the survey instrument itself made it vulnerable to overreporting of adverse experiences due to "demand bias" (also known as the "good subject effect"). This form of bias occurs when the researchers reveal their hypothesis and aims, which encourages participants to support the investigator's aims with their answers (Nichols & Maner, 2008; Orne, 1962; Weber & Cook, 1972). Finally, the experiences of detransitioners and desisters were not included, as they were disqualified from completing the survey. Failure to include detransitioned and desisted individuals in research regarding psychological interventions for GD is a serious oversight. These individuals, whose transgender identification was transient, may have been hurt by therapies that affirmed them as transgender, and may have benefitted from therapies that helped them successfully ameliorate their GD (D'Angelo, 2020b).

These serious limitations of the USTS survey greatly undermine the validity of the findings it produced. It is imperative that any analysis based on this low-quality biased sample is validated using a high-quality probability sample before any recommendations stemming from the analysis of these data can be used to shape clinical or policy decisions.

Invalid Measure of Gender Conversion Therapy

Turban et al.'s (2020) conclusions rest on the assumption that they have a valid way of determining whether or not a respondent was exposed to the unethical practice of conversion therapy. Yet, the USTS question they relied on (Question 13.2) is too non-specific to serve as a valid measure of gender conversion therapy. Firstly, the question conflates mental health encounters with interactions with other types of professionals. Secondly, there is no information about whether the recalled encounter was self-initiated or coerced. Thirdly, it does not differentiate between diagnostic evaluations or a specific therapeutic intervention. There is also no information about whether the focus of the encounter was gender dysphoria or another condition. And finally, it does not determine whether shaming, threats, or other unethical tactics were utilized during the encounter. This lack of context and detail renders the question incapable of differentiating between ethical non-affirmative (neutral) encounters and unethical conversion therapy.

Consider a common situation where the patient is seeking approval for medical treatment for GD, where the role of the therapist is to assess the individual's mental health to

Table 1 Comparison of demographic characteristics of transgender-identifying individuals in the 2015 US Transgender Survey (USTS) and the Behavioral Risk Factor Surveillance System Survey (BRFSS) 2014–2017

Characteristic	USTS, 2015 ^a Transgender (<i>n</i> = 27,715)	BRFSS, 2014–2017 ^b Transgender (<i>n</i> = 3075)
Gender identity		
Transgender women (male to female)	33%	48% ^c
Transgender men (female to male)	29%	30% ^c
Non-binary/gender-non-conforming	38%	22% ^c
Sexual orientation^c		
Heterosexual	15%	69%
Lesbian or gay	16%	10%
Bisexual	14%	15%
Other ^d	55%	7%
Age		
18–24	42%	22%
25–44	42%	30%
45–64	14%	32%
65+	2%	17%
Race/ethnicity		
White, non-Hispanic	62%	55%
Black, non-Hispanic	13%	16%
Asian, Native Hawaiian, or Pacific Islander	5%	5%
Other, non-Hispanic	3%	5%
Hispanic	17%	19%
Education level		
Did not graduate high school	2%	21%
Graduated high school	11%	33%
Some college or technical school	40%	32%
Graduated college or technical school	47%	14%
Annual household income		
< 25,000	38%	39%
25,000–49,999	24%	24%
50,000+	38%	37%
Home ownership		
Own	16%	55%
Rent	44%	35%
Other arrangement	40%	10%
Marital status		
Married or coupled	18%	46%
Divorced, separated, or widowed	10%	21%
Never married	72%	33%

^aUS Transgender Survey, 2015 (James et al., 2016). Weighted data^bCDC BRFSS Survey, 2014–2017 (Baker, 2019). Weighted data^cSexual orientation reported based on the respondent self-identification^dCombines all the response options other than “homosexual,” “lesbian/gay,” or “bisexual.”^eCalculated using 2014–2017 BRFSS data (CDC, 2014–2017). Weighted data

ensure that GD is not secondary to another condition. Such encounters can be experienced by patients as an attempt to withhold the treatment they so desperately want (Chiland, 1997). Further, patients with psychiatric diagnoses, highly

prevalent in transgender-identifying populations (Gijs, van der Putten-Bierman, & De Cuypere, 2013; Goodman & Nash, 2018; Wanta, Niforatos, Durbak, Viguera, & Altinay, 2019), can potentially experience or misinterpret neutral

interpersonal interactions as invalidating or rejecting (Bar-now et al., 2009; Beck & Bredemeier, 2016; Gotlib, 1983). Not only does the survey question provide no detail to help discriminate between these essential therapy encounters and unethical conversion therapy, but it arguably biases the recall of neutral encounters toward recall of conversion by using emotionally charged language (e.g., “stop you being trans”) and by conflating recall of religiously motivated encounters with clinical ones.

Turban et al. (2020) ignored these issues and instead created a veneer of certainty by referring to USTS question 13.2 as GICE and used it throughout the paper as though it were a valid equivalent of conversion therapy. Not only is the term itself novel (the lead author referred to the same USTS question by yet another term, “PACGI,” in a publication just weeks earlier [Turban, King, Reisner, & Keuroghlian, 2019]), but its equivalency to conversion therapy is highly debatable, in part due to the fact that the term itself has not been defined, other than through a circular reference to USTS question 13.2 itself.¹ Accounting for the many gray areas in the question wording, we propose that GICE is “any professional encounter which the subject recalls as non-affirmative of their transgender identity.” As we have demonstrated, it is not uncommon for agenda-free, neutral therapy interventions to be experienced by the subjects as non-affirmative. However, non-affirmative is not the same as “conversion,” as the latter implies a therapist agenda and an aim for a fixed outcome (American Psychological Association, 2015). In fact, it is the utter inability of USTS question 13.2, and consequently, GICE, to differentiate between agenda-free ethical psychotherapy and coercive, agenda-driven therapy, that is the Achilles heel of Turban et al.’s entire argument.

Misinterpretation of a Key Scale

A key finding of Turban et al.’s (2020) analysis is that the USTS participants who recalled exposure to GICE were more likely to report severe psychological distress, as evidenced by their score of ≥ 13 on the K-6 scale. From this, Turban et al. concluded that GICE has adverse effects on mental health. We will address the unsupported claim of causation in a subsequent section. Here, we would like to further explore the use of the K-6 scale to make these claims, and its implications.

The K-6 scale, and its cutoff score of ≥ 13 , was specifically developed by Kessler et al. (2003) in order to discriminate between cases of non-specific psychological distress and cases of serious mental illness (SMI). Scoring ≥ 13 is predictive of having a DSM diagnosis of schizophrenia, bipolar

disorder, and a range of other major mental health conditions that cause serious functional impairment (Substance Abuse and Mental Health Services Administration, 2020). Thus, Turban et al.’s (2020) finding of an association between the recall of GICE and scoring ≥ 13 actually suggests that the USTS participants recalling GICE were more likely to have a severe mental illnesses diagnosis than those not recalling GICE. Further, any claim of causation, which Turban et al. continue to suggest throughout the paper (however unsupported by the study design), would imply that exposure to GICE caused serious mental illness, in previously mentally well populations. This is a highly speculative and implausible hypothesis, which further challenges their claims.

Omission of a Key Control Variable

Turban et al.’s (2020) hypothesis, namely, that GICE exposure (during lifetime, as well as in childhood) causes poor mental health and contributes to suicide attempts, is further weakened by a significant flaw in their data analysis: failure to control for the individuals’ pre-GICE-exposure mental health status. Not only does this critical omission confound the association between exposure to GICE and present mental health, but it may mask reverse causation, namely, that it was the individual’s underlying poor mental health that led to their experience of GICE in the first place.

Let us revisit the example of a common clinical encounter in which a person with GD and one or more comorbid psychiatric conditions presents for assessment with the goal of obtaining approval for cross-sex hormones. An assessment of such a complex presentation generally requires multiple sessions and involves ascertaining whether the GD is secondary to another condition. It is also likely that the clinician might focus on treating the comorbid condition(s) first, before pursuing “gender-affirming” interventions. While such a contact would be recalled by the respondent as non-affirmative and thus likely classified as GICE, it is the patient’s poor mental health status that led to the non-affirming content of the encounter, rather than vice versa. If the said individual had attempted suicide in the past or continued to struggle with mental illness more recently, Turban et al.’s (2020) analysis would erroneously conclude that GICE was likely responsible for those difficulties, when, in fact, no such causation occurred.

In fact, failure to control for the subjects’ baseline mental health makes it impossible to determine whether the mental health or the suicidality of subjects worsened, stayed the same, or potentially even improved after the non-affirming encounter. Given the high rate of co-occurring mental illness in transgender-identifying patients (Gijs et al., 2013; Goodman & Nash, 2018; Wanta et al., 2019), failure to control for prior mental health status is a serious methodological flaw.

¹ Psychological Attempts to Change Gender Identity.

Internal Inconsistencies in Mental Health Measures

Turban et al.'s (2020) finding that mental health outcomes of persons exposed to GICE are worse than those whose encounters were "gender-affirming" is weakened by internal inconsistencies in the mental health outcome measures. We have already discussed the fact that the threshold chosen by Turban et al. on the K-6 scale detects serious mental illness, rather than distress. Another measure of psychological distress chosen by Turban et al.—substance misuse—was not significantly different between GICE and the non-GICE group. More importantly, there is a lack of consistency in the suicide measures. While lifetime suicide attempts were elevated among the GICE group, total suicide attempts in the prior 12 months, as well as suicide attempts requiring hospitalization, which generally indicate more serious attempts rather than non-suicidal self-injury, were not significantly different between the two groups. Turban et al. did not address this inconsistency. Nor did they explore the relationship between suicidality and the higher levels of serious mental illness among the GICE group, despite the well-documented link between serious mental illness and suicide (Bertolote, Fleischmann, De Leo, & Wasserman, 2004). Turban et al. did not heed their own warning not to attribute the increased lifetime suicidality entirely to GICE since "other factors are also likely to be associated with suicidality among gender-diverse people." Instead, they treat the inconsistent and unclear association between GICE and suicidality as causative and infuse it with an air of certainty by elevating it into title of their paper.

Claim of Causation When Only an Association Has Been Found

Although a causative relationship between recalled GICE and adverse mental health status is possible (even if direction of the causality is unclear), the cross-sectional design of the USTS is not capable of determining causation. While Turban et al. (2020) acknowledged this limitation and correctly referred to the relationship they found as an association, they strongly implied causation throughout their discussion, as well as in their "Conclusions and Relevance" section, which states, "These results support policy statements from several professional organizations that have discouraged this [GICE] practice." Presenting a highly confounded association as causation is a serious error, given its potential to dangerously misinform and mislead

clinicians, policymakers, and the public at large about this important issue.

Discussion

The fact that coercive techniques to force unwanted changes in individuals are unethical and have no place in modern psychotherapy is self-evident and needs no additional justification. However, as we have demonstrated, Turban et al. (2020) failed to prove that GICE, as defined by affirmative answers to the USTS question, caused poor mental health or suicide attempts in study subjects. Further, since Turban et al. failed to establish equivalence between GICE, which likely subsumes a range of ethical non-affirmative interventions, and "gender conversion therapy," which implies unethical and coercive attempts to force a change in one's identity, their use of the study findings in support of a ban on "gender conversion therapy" is without any foundation.

Rather than appropriately acknowledging the significant study limitations and calling for more research, Turban et al. (2020) used their flawed findings to engage in a media campaign promoting legislative bans of GICE. Two of the study authors penned an op-ed in which they state, "It's time for conversion efforts to be illegal in every state, before more people die" (Turban & Keuroghlian, 2019). Turban, the lead author, repeated these sweeping, emotive claims on several highly visible national media platforms (Bever, 2019; Fitzsimons, 2019). In contrast, the debate regarding this study in the scientific arena was not allowed to occur. To the best of our knowledge, all of the letters written to the Editor of *JAMA Psychiatry*, many by respected academics and clinicians who outlined the serious problems in the study, have been rejected (some of them were later submitted as non-indexed comments in the online publication). The omission of these important arguments from the scientific discourse stifles scientific debate and perpetuates the current politicization of transgender health care, where treatment decisions are increasingly legislated by politicians.

While the poor study methodology is unfortunate, arguably, the most problematic aspect of Turban et al.'s (2020) work is the choice to view psychotherapy through a binary of "affirmation" versus "conversion," resulting in a conflation of ethical non-affirmative psychotherapy with conversion therapy. The self-evident crudeness of the GICE versus "affirmation" binary, promoted by Turban et al., and the potential harms of such a simplistic view of psychotherapy are illustrated by the following examples.

Consider a female victim of sexual assault, who subsequently develops an intense discomfort with her female anatomy and expresses a desire to undergo biomedical interventions to change her body. It would be unethical for the

clinician to overlook the contribution of sexual victimization to this nascent GD. A therapist enthusiastically supporting this patient's new male identity would be failing to provide appropriate treatment for what amounts to a post-traumatic condition, instead providing an inappropriate treatment with the potential to harm. Similarly, a boy who has been traumatized by relentless bullying due to his gender "non-conformity" (e.g., interest in classical music or fashion and avoidance of sports) may conclude that if he were a girl then he would "fit in" and the humiliation would stop. In this case too, gender-affirming interventions miss the mark when what this traumatized young person requires is psychotherapy.

Another obvious difficulty arises when same-sex attracted adolescents report cross-sex identifications. Research shows that a high number of homosexual adults have experienced periods of "cross-sex" behaviors and cross-gender identification in childhood and adolescence, often to a degree that is severe enough to warrant the diagnosis of GD, or gender identity disorder, as it was previously known (Bailey & Zucker, 1995; Bell, Weinberg, & Hammersmith, 1981; Hiestand & Levitt, 2005; Li, Kung, & Hines, 2017). When a dysphoric same-sex attracted young person in the midst of this developmental process presents for mental health care, a clinician overtly affirming the patient's cross-sex gender identity would be failing this patient by not addressing the patient's struggle with same-sex attraction and/or internalized homophobia. In fact, some homophobic societies and indeed families that reject homosexuality among their children have embraced the "affirmative" biomedical pathway (Bannerman, 2020; Hamedani, 2014), which poses a question as to whether "affirmative" care in some instances serves the role of gay conversion therapy.

Further, GD can present as a transient symptom that resolves spontaneously or in the context of developmentally informed psychotherapeutic treatment. Some common examples of transient gender-dysphoric states include adolescents girls, often on the autism spectrum, experiencing distress around the physical and social changes of puberty or gender-non-conforming young women struggling with shame about being seen as "butch." These individuals, searching for ways to understand and remedy their distress, can incorrectly attribute their discomfort to being transgender. Several case reports (Churcher Clarke & Spiliadis, 2019; Lemma, 2018; Spiliadis, 2019) indicate that the distress of young people with GD can lessen or resolve with appropriate psychotherapeutic interventions that address the central issues.

If anything other than "affirmation" is viewed as GICE, it follows that the provision of psychotherapy in these clinical scenarios would be seen as harmful conversion efforts. Yet these therapeutic interventions do not aim to convert or consolidate an identity, but instead aim to help individuals gain a deeper understanding of their discomfort with themselves, the factors that have contributed to their distress, and

their motivations for seeking transition (Bonfatto & Crasnow, 2018; D'Angelo 2020a). These exploratory questions are consistent with the principle of therapeutic neutrality—a cornerstone of ethical psychotherapy (Simon, 1992). In fact, both "conversion" and "affirmation" therapy efforts carry the risk of undue influence, potentially compromising patient autonomy. In contrast, the provision of a neutral, unbiased psychotherapeutic process that allows these patients to clarify their feelings and assess the various treatment options, which range from non-invasive to highly invasive, irreversible procedures, is arguably the only way that meaningful informed consent for the latter can be obtained (Levine, 2018).

Turban et al.'s (2020) unproven assertion that non-affirming therapies are dangerous stands in contrast to the documented risks and uncertainties associated with hormonal and surgical interventions that are a core part of the "affirmation" treatment path. Until recently, puberty blockers were considered safe and fully reversible, but there is now emerging evidence of their adverse effects on the bone and brain health (Klink, Caris, Heijboer, van Trotsenburg, & Rotteveel, 2015; Joseph, Ting, & Butler, 2019; Schneider et al., 2017). Additionally, since almost all of the children treated with puberty blockers proceed to cross-sex hormones (de Vries et al., 2014), concerns have been raised that puberty blockers may consolidate gender dysphoria in young people, putting them on a lifelong path of biomedical interventions.

Cross-sex hormones are associated with cardiovascular complications, including a fourfold increased risk of heart attacks in biological females, and a threefold increase in the incidence of venous thromboembolism in biological males (Alzahrani et al., 2019; Nota et al., 2019). "Gender-affirming" surgeries can cause urethral stricture, neo-vaginal stenosis and prolapse, and long-term post-mastectomy pain (Larsson, Ahm Sørensen, & Bille, 2017; Manrique et al., 2018; Rashid and Tamimy, 2013; Santucci, 2018). The effects of "gender-affirmative" care on fertility have not been adequately studied, but infertility is a likely outcome, depending on the specific treatments pursued. It remains unclear whether fertility concerns will be important to this group of patients as they mature, but increasingly, gender centers are recommending fertility preservation procedures prior to undergoing hormonal interventions.

Given the absence of robust long-term evidence that the benefits of biomedical interventions outweigh the potential for harm, especially among young people (Heneghan & Jefferson, 2019), it is self-evident that the least-invasive treatment options should be pursued before progressing to more risky and irreversible interventions. To the extent that psychological treatments can help an individual obtain relief from GD without undergoing body-altering interventions, ensuring access to these interventions is not only ethical and prudent but also essential.

The importance of continued access to non-affirmation–non-conversion, agenda-free evaluation, and treatment is further underscored by the increasing numbers of detransitioning patients speaking out in social media forums following gender transitions they have come to regret (Entwistle, 2020). The rate of regret, detransition, and desistance from transgender identification is largely unknown (Butler & Hutchinson, 2020). The majority of patients with classical, childhood-onset gender dysphoria (61%–98%) desist from transgender identification some time in adolescence or young adulthood (Korte et al., 2008; Steensma, McGuire, Kreukels, Beekman, & Cohen-Kettenis, 2013; Zucker, 2018). The minority who persist with their transgender identification into adulthood and undergo “gender-affirmative” surgeries have been reported to have low rates of regret (van de Grift, Elaut, Cervenka, Cohen-Kettenis, & Kreukels, 2018) and detransition (Dhejne, Öberg, Arver, & Landén, 2014). However, these studies may understate true regret rates due to overly stringent definitions of regret (i.e., requiring an official application for reversal of the legal gender status), very high rates of participant loss to follow-up (22%–63%) (D’Angelo, 2018), and an unexplored relationship between regret and high rates of post-transition suicide (Dhejne et al., 2011).

The novel cohort of young GD patients increasingly presenting for help is poorly understood. It is overrepresented by adolescent females with recent-onset GD and with comorbid mental health and neurocognitive issues (Bewley, Clifford, McCartney, & Byng, 2019; de Graaf, Giovanardi, Zitz, & Carmichael, 2018; Kaltiala-Heino, Bergman, Työlajärvi, & Frisen, 2018; Littman, 2018; Zucker, 2019). The trajectory of GD among these young patients, including the rates of desistance and detransition, remains unknown. However, many of us, along with our colleagues, are seeing increasing numbers of detransitioners with adolescent-onset GD who regret not having received exploratory psychotherapy to help them understand their distress and the desire to transition before they underwent irreversible medical and surgical treatments. Equally concerning, a number report that when doubts about their own transgender status arose, their therapists continued to affirm them as transgender, attributing their doubts to internalized transphobia, and encouraging them to continue medical interventions, which, in turn, unnecessarily exacerbated the psychological and physical harms.

Advocates of “affirmative care” tend to downplay the risks of iatrogenic harms resulting from inappropriate transitions and minimize the seriousness of the resulting harms by describing them as merely “cosmetic” (Turban & Keuroghlian, 2018). In stark contrast to these assertions, we are seeing increasing numbers of patients who feel deeply traumatized by inappropriate transitions. They suffer from irreversible physical changes, including alterations to their genitals and sexual function, sterility, painful vaginal atrophy, chest/breast alteration and scarring, deepening of the voice, unwanted

permanent changes to facial hair growth, male-pattern baldness, urinary incontinence, and other lasting effects. Apart from the distress that these changes cause, they also negatively impact many areas of their lives, including their ability to form a stable gender identity (many feel trapped in a “gender no-man’s land”), to find romantic partners and supportive social networks, to bear children, or to secure employment. The process of coming to terms with these consequences of their transition is psychologically difficult and can be profoundly painful.

Given the risky and irreversible nature of “gender-affirming” treatments, it is concerning that for many years now, there has been a lack of systematic research into the role that developmentally informed psychotherapy can play in the amelioration of GD, especially among young people. The need for the continued development and evaluation of non-invasive psychological treatment alternatives for GD has never been more urgent, given the fact that over 3% of young people report transgender identification or ideation (Johns et al., 2019). Given the sheer magnitude of this change, and the potential for exponential growth in the number of individuals who are medically harmed, it is time to raise the bar on science and to heed the first and most fundamental tenet of medicine: “First, do no harm.”

Conclusions

Turban et al.’s (2020) singular endorsement of “affirmative” therapies, which their data failed to substantiate, contributes to the alarming trend to frame any non-“affirming” approaches as harmful. We are deeply concerned that this false dichotomy, reinforced by Turban et al.’s unproven claims of the harms of GICE, will have a chilling effect on the ethical psychotherapists’ willingness to take on complex GD patients, which will make it much harder for GD individuals to access quality mental health care. We maintain that availability of a broad range of non-coercive, ethical psychotherapies for individuals with GD is essential to meaningful informed consent, which requires consideration of the full range of treatment options, from highly invasive to non-invasive. Further, given the potential of agenda-free psychotherapy to ameliorate GD non-invasively among young people with GD, withholding this type of intervention, while promoting “affirmation” approaches that pave the way to medical transition, is ethically questionable.

We believe that exploratory psychotherapy that is neither “affirmation” nor “conversion” should be the first-line treatment for all young people with GD, potentially reducing the need for invasive and irreversible medical procedures. This is especially critical now, when we are witnessing an exponential rise in the incidence of young people with GD who

have diverse and complex mental health presentations and require careful assessment and treatment planning.

We are concerned about the deficit in our knowledge base about psychological interventions for GD, beyond a few successful but small case studies, and we fear that the erroneous conclusions presented by Turban et al. (2020) will make it less likely that such research will be carried out in the future. We call on the scientific community to resist the stigmatization of psychotherapy for GD and to support rigorous outcome research investigating the effectiveness of various psychological treatments aimed at ameliorating or resolving GD. The outcomes of psychotherapeutic treatments must be compared to those of biomedical interventions, so that evidence-based standards of care that allow patients and clinicians to make fully informed decisions about how best to alleviate GD can be developed and put into practice.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Alzahrani, T., Nguyen, T., Ryan, A., Dwairy, A., McCaffrey, J., Yunus, R., et al. (2019). Cardiovascular disease risk factors and myocardial infarction in the transgender population. *Circulation: Cardiovascular Quality and Outcomes*, 12. <https://doi.org/10.1161/circoutcomes.119.005597>.
- American Psychological Association. (2015). *Therapy supporting and affirming LGBTQ youth*. Retrieved 3 June, 2020 from <https://www.apa.org/advocacy/civil-rights/sexual-diversity/lgbtq-therapy>.
- Bailey, J. M., & Zucker, K. J. (1995). Childhood sex-typed behavior and sexual orientation: A conceptual analysis and quantitative review. *Developmental Psychology*, 31(1), 43–55. <https://doi.org/10.1037/0012-1649.31.1.43>.
- Baker, K. E. (2019). Findings from the behavioral risk factor surveillance system on health-related quality of life among US transgender adults, 2014–2017. *JAMA Internal Medicine*, 179(8), 1141–1144. <https://doi.org/10.1001/jamainternmed.2018.7931>.
- Bannerman, L. (2020). It feels like conversion therapy for gay children, say clinicians. *The Times.co.uk*. Retrieved 7 September, 2020 from <https://www.thetimes.co.uk/article/it-feels-like-conversion-therapy-for-gay-children-say-clinicians-pvsckdvq2>.
- Barnow, S., Stopsack, M., Grabe, H. J., Meinke, C., Spitzer, C., Krommüller, K., & Sieswerda, S. (2009). Interpersonal evaluation bias in borderline personality disorder. *Behaviour Research and Therapy*, 47(5), 359–365. <https://doi.org/10.1016/j.brat.2009.02.003>.
- Beck, A. T., & Bredemeier, K. (2016). A unified model of depression: Integrating clinical, cognitive, biological, and evolutionary perspectives. *Clinical Psychological Science*, 4(4), 596–619.
- Bell, A. P., Weinberg, M. S., & Hammersmith, S. K. (1981). *Sexual preference: Its development in men and women*. Bloomington: Indiana University Press.
- Bertolote, J. M., Fleischmann, A., De Leo, D., & Wasserman, D. (2004). Psychiatric diagnoses and suicide: Revisiting the evidence. *Crisis*, 25(4), 147–155. <https://doi.org/10.1027/0227-5910.25.4.147>.
- Bever, L. (2019). Conversion therapy associated with severe psychological distress in transgender people, study says. *The Washington Post*. Retrieved September 7, 2020 from <https://www.washingtonpost.com/health/2019/09/11/conversion-therapy-associated-with-severe-psychological-distress-transgender-people-study-says/>.
- Bewley, S., Clifford, D., McCartney, M., & Byng, R. (2019). Gender incongruence in children, adolescents, and adults. *British Journal of General Practice*, 69(681), 170–171. <https://doi.org/10.3399/bjgp19x701909>.
- Biggs, M. (2020). Puberty blockers and suicidality in adolescents suffering from gender dysphoria [Letter to the Editor]. *Archives of Sexual Behavior*, 49, 2227–2229. <https://doi.org/10.1007/s10508-020-01743-6>.
- Bonfatto, M., & Crasnow, E. (2018). Gender/ed identities: An overview of our current work as child psychotherapists in the Gender Identity Development Service. *Journal of Child Psychotherapy*, 44(1), 29–46. <https://doi.org/10.1080/0075417X.2018.1443150>.
- Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. *Developmental Review*, 33(4), 357–370. <https://doi.org/10.1016/j.dr.2013.08.003>.
- Butler, C., & Hutchinson, A. (2020). Debate: The pressing need for research and services for gender desisters/detransitioners. *Child and Adolescent Mental Health*, 25(1), 45–47. <https://doi.org/10.1111/camh.12361>.
- Centers for Disease Control and Prevention (CDC). (2014–2017). *Behavioral risk factor surveillance system survey data*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved September 7, 2020 from https://www.cdc.gov/brfss/data_documentation/index.htm.
- Chiland, C. (1997). *Transsexualism: Illusion and reality*. London: Sage Publications.
- Churcher Clarke, A., & Spiliadis, A. (2019). ‘Taking the lid off the box’: The value of extended clinical assessment for adolescents presenting with gender identity difficulties. *Clinical Child Psychology and Psychiatry*, 24(2), 338–352. <https://doi.org/10.1177/1359104518825288>.
- D’Angelo, R. (2018). Psychiatry’s ethical involvement in gender-affirming care. *Australasian Psychiatry*, 26(5), 460–463.
- D’Angelo, R. (2020a). The complexity of childhood gender dysphoria. *Australasian Psychiatry*. <https://doi.org/10.1177/1039856220917076>.
- D’Angelo, R. (2020b). The man I am trying to be is not me. *International Journal of Psychoanalysis*. <https://doi.org/10.1080/00207578.2020.1810049>.
- de Graaf, N. M., Giovanardi, G., Zitz, C., & Carmichael, P. (2018). Sex ratio in children and adolescents referred to the Gender Identity Development Service in the UK (2009–2016) [Letter to the Editor]. *Archives of Sexual Behavior*, 47(5), 1301–1304. <https://doi.org/10.1007/s10508-018-1204-9>.
- de Vries, A. L. C., McGuire, J. K., Steensma, T. D., Wagenaar, E. C. F., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2014). Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics*, 134(4), 696–704. <https://doi.org/10.1542/peds.2013-2958>.
- Dhejne, C., Lichtenstein, P., Boman, M., Johansson, A. L. V., Långström, N., & Landén, M. (2011). Long-term follow-up

- of transsexual persons undergoing sex reassignment surgery: Cohort study in Sweden. *PLoS ONE*, 6(2), e16885. <https://doi.org/10.1371/journal.pone.0016885>.
- Dhejne, C., Öberg, K., Arver, S., & Landén, M. (2014). An analysis of all applications for sex reassignment surgery in Sweden, 1960–2010: Prevalence, incidence, and regrets. *Archives of Sexual Behavior*, 43(8), 1535–1545. <https://doi.org/10.1007/s10508-014-0300-8>.
- Entwistle, K. (2019). Debate: Reality check—detransitioners' testimonies require us to rethink gender dysphoria. *Child and Adolescent Mental Health*. <https://doi.org/10.1111/camh.12380>.
- Fitzsimons, T. (2019). Transgender 'conversion therapy' associated with 'severe psychological distress.' *NBC News*. Retrieved September 7, 2020 from <https://www.nbcnews.com/feature/nbc-out/transgender-conversion-therapy-associated-severe-psychological-distress-n1052416>.
- Gijs, L., van der Putten-Bierman, E., & De Cuypere, G. (2014). Psychiatric comorbidity in adults with gender identity problems. In B. P. C. Kreukels, T. D. Steensma, & A. L. C. de Vries (Eds.), *Gender dysphoria and disorders of sex development: Progress in care and knowledge* (pp. 255–276). New York: Springer. https://doi.org/10.1007/978-1-4614-7441-8_13.
- Goodman, M., & Nash, R. (2018). *Examining health outcomes for people who are transgender*. Washington, DC: Patient-Centered Outcomes Research Institute. <https://doi.org/10.25302/2.2019.AD.12114532>.
- Gotlib, I. H. (1983). Perception and recall of interpersonal feedback: Negative bias in depression. *Cognitive Therapy and Research*, 7(5), 399–412. <https://doi.org/10.1007/bf01187168>.
- Hamedani, A. (2014). The gay people pushed to change their gender. *BBC News*. Retrieved 7 September, 2020 from <https://www.bbc.com/news/magazine-29832690>.
- Heneghan, C., & Jefferson, T. (2019). Gender affirming hormone in children and adolescents. *BMJ EBM Spotlight*. Retrieved September 7, 2020 from <https://blogs.bmj.com/bmjebmspotlight/2019/02/25/gender-affirming-hormone-in-children-and-adolescents-evidence-review/>.
- Hiestand, K. R., & Levitt, H. M. (2005). Butch identity development: The formation of an authentic gender. *Feminism & Psychology*, 15(1), 61–85. <https://doi.org/10.1177/09593535050049709>.
- James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). *The report of the 2015 U.S. Transgender Survey*. Washington, DC: National Center for Transgender Equality.
- Johns, M. M., Lowry, R., Andrzejewski, J., Barrios, L. C., Demissie, Z., McManus, T., et al. (2019). Transgender identity and experiences of violence victimization, substance use, suicide risk, and sexual risk behaviors among high school students—19 states and large urban school districts, 2017. *Morbidity and Mortality Weekly Report*, 68(3), 67–71. <https://doi.org/10.15585/mmwr.mm6803a3>.
- Joseph, T., Ting, J., & Butler, G. (2019). The effect of GnRH analogue treatment on bone mineral density in young adolescents with gender dysphoria: Findings from a large national cohort. *Journal of Pediatric Endocrinology and Metabolism*, 32(10), 1077–1081. <https://doi.org/10.1515/jpem-2019-0046>.
- Kaltiala-Heino, R., Bergman, H., Työläjärvi, M., & Frisen, L. (2018). Gender dysphoria in adolescence: Current perspectives. *Adolescent Health, Medicine and Therapeutics*, 9, 31–41. <https://doi.org/10.2147/ahmt.s135432>.
- Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., et al. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry*, 60(2), 184–189. <https://doi.org/10.1001/archpsyc.60.2.184>.
- Klink, D., Caris, M., Heijboer, A., van Trotsenburg, M., & Rotteveel, J. (2015). Bone mass in young adulthood following gonadotropin-releasing hormone analog treatment and cross-sex hormone treatment in adolescents with gender dysphoria. *Journal of Clinical Endocrinology & Metabolism*, 100(2), E270–E275. <https://doi.org/10.1210/jc.2014-2439>.
- Korte, A., Goecker, D., Krude, H., Lehmkuhl, U., Grüters-Kieslich, A., & Beier, K. M. (2008). Gender identity disorders in childhood and adolescence: Currently debated concepts and treatment strategies. *Deutsches Arzteblatt International*, 105(48), 834–841. <https://doi.org/10.3238/arztebl.2008.0834>.
- Larsson, I. M., Sørensen, J. A., & Bille, C. (2017). The post-mastectomy pain syndrome—A systematic review of the treatment modalities. *The Breast Journal*, 23(3), 338–343.
- Lemma, A. (2018). Trans-itory identities: Some psychoanalytic reflections on transgender identities. *International Journal of Psychoanalysis*, 99(5), 1089–1106. <https://doi.org/10.1080/00207578.2018.1489710>.
- Levine, S. B. (2018). Informed consent for transgendered patients. *Journal of Sex and Marital Therapy*, 45(3), 218–229. <https://doi.org/10.1080/0092623x.2018.1518885>.
- Li, G., Kung, K. T. F., & Hines, M. (2017). Childhood gender-typed behavior and adolescent sexual orientation: A longitudinal population-based study. *Developmental Psychology*, 53(4), 764–777. <https://doi.org/10.1037/dev0000281>.
- Littman, L. (2018). Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria. *PLoS ONE*, 13(8), e0202330. <https://doi.org/10.1371/journal.pone.0202330>.
- Manrique, O. J., Adabi, K., Martinez-Jorge, J., Ciudad, P., Nicoli, F., & Kiranantawat, K. (2018). Complications and patient-reported outcomes in male-to-female vaginoplasty—Where we are today. *Annals of Plastic Surgery*, 80(6), 684–691.
- Nichols, A. L., & Maner, J. K. (2008). The good-subject effect: Investigating participant demand characteristics. *Journal of General Psychology*, 135(2), 151–166. <https://doi.org/10.3200/genp.135.2.151-166>.
- Nota, N. M., Wiepjes, C. M., de Blok, C. J. M., Gooren, L. J. G., Kreukels, B. P. C., & den Heijer, M. (2019). Occurrence of acute cardiovascular events in transgender individuals receiving hormone therapy. *Circulation*, 139(11), 1461–1462. <https://doi.org/10.1161/circulationaha.118.038584>.
- Orne, M. T. (1962). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. *American Psychologist*, 17, 776–783.
- Rashid, M., & Tamimy, M. S. (2013). Phalloplasty: The dream and the reality. *Indian Journal of Plastic Surgery*, 46(2), 283–293.
- Santucci, R. A. (2018). Urethral complications after transgender phalloplasty: Strategies to treat them and minimize their occurrence. *Clinical Anatomy*, 31(2), 187–190.
- Schneider, M. A., Spritzer, P. M., Soll, B. M. B., Fontanari, A. M. V., Carneiro, M., Tovar-Moll, F., et al. (2017). Brain maturation, cognition and voice pattern in a gender dysphoria case under pubertal suppression. *Frontiers in Human Neuroscience*, 11. <https://doi.org/10.3389/fnhum.2017.00528>.
- Simon, R. I. (1992). Treatment boundary violations: Clinical, ethical and legal considerations. *Bulletin of the American Academy of Psychiatry and the Law*, 20(3), 269–288.
- Spiliadis, A. (2019). Towards a gender exploratory model: Slowing things down, opening things up and exploring identity development. *Metalogos Systemic Therapy Journal*, 35, 1–9.
- Steensma, T. D., McGuire, J. K., Kreukels, B. P. C., Beekman, A. J., & Cohen-Kettenis, P. T. (2013). Factors associated with desistence and persistence of childhood gender dysphoria: A quantitative follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(6), 582–590. <https://doi.org/10.1016/j.jaac.2013.03.016>.
- Substance Abuse and Mental Health Services Administration (SAMHSA). (2020). *Serious mental illness and serious emotional*

- disturbance. Retrieved September 7, 2020 from <https://www.samhsa.gov/dbhis-collections/smi>.
- Turban, J. L., Beckwith, N., Reisner, S. L., & Keuroghlian, A. S. (2020). Association between recalled exposure to gender identity conversion efforts and psychological distress and suicide attempts among transgender adults. *JAMA Psychiatry*, 77(1), 68–76. <https://doi.org/10.1001/jamapsychiatry.2019.2285>.
- Turban, J. L., & Keuroghlian, A. S. (2018). Dynamic gender presentations: Understanding transition and de-transition among transgender youth. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(7), 451–453. <https://doi.org/10.1016/j.jaac.2018.03.016>.
- Turban, J. L., & Keuroghlian, A. S. (2019). It's time to outlaw conversion efforts for transgender Americans. *The Salt Lake Tribune*. Retrieved September 7, 2020 from <https://www.sltrib.com/opinion/commentary/2019/11/02/jack-turban-alex-s/>.
- Turban, J. L., King, D., Reisner, S. L., & Keuroghlian, A. S. (2019). Psychological attempts to change a person's gender identity from transgender to cisgender: Estimated prevalence across US States, 2015. *American Journal of Public Health*, 109(10), 1452–1454. <https://doi.org/10.2105/AJPH.2019.305237>.
- United Nations. (2020). General Assembly, Practices of so-called “conversion therapy”: Report of the independent expert on protection against violence and discrimination based on sexual orientation and gender identity. *Human Rights Council*, A/HRC/44/53 Retrieved September 7, 2020 from https://www.un.org/en/ga/search/view_doc.asp?symbol=A/HRC/44/53.
- van de Grift, T. C., Elaut, E., Cerwenka, S. C., Cohen-Kettenis, P. T., & Kreukels, B. P. C. (2018). Surgical satisfaction, quality of life, and their association after gender-affirming surgery: A follow-up study. *Journal of Sex and Marital Therapy*, 44(2), 138–148. <https://doi.org/10.1080/0092623x.2017.1326190>.
- Wanta, J. W., Niforatos, J. D., Durbak, E., Viguera, A., & Altinay, M. (2019). Mental health diagnoses among transgender patients in the clinical setting: An all-payer electronic health record study. *Transgender Health*, 4(1), 313–315. <https://doi.org/10.1089/trgh.2019.0029>.
- Weber, S. J., & Cook, T. D. (1972). Subject effects in laboratory research: An examination of subject roles, demand characteristics, and valid inference. *Psychological Bulletin*, 77(4), 273–295. <https://doi.org/10.1037/h0032351>.
- Zucker, K. J. (2018). The myth of persistence: Response to “A critical commentary on follow-up studies and ‘desistance’ theories about transgender and gender non-conforming children” by Temple Newhook et al. (2018). *International Journal of Transgenderism*, 19(2), 231–245. <https://doi.org/10.1080/15532739.2018.1468293>.
- Zucker, K. J. (2019). Adolescents with gender dysphoria: Reflections on some contemporary clinical and research issues. *Archives of Sexual Behavior*, 48(7), 1983–1992. <https://doi.org/10.1007/s10508-019-01518-8>.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Gender Identity 5 Years After Social Transition

Kristina R. Olson, PhD,^a Lily Durwood, PhD,^b Rachel Horton, BS,^a Natalie M. Gallagher, PhD,^a and Aaron Devor, PhD^c

BACKGROUND AND OBJECTIVES: Concerns about early childhood social transitions among transgender youth include that these youth may later change their gender identification (ie, retransition), a process that could be distressing. The current study aimed to provide the first estimate of retransitioning and to report the current gender identities of youth an average of 5 years after their initial social transitions.

METHODS: The current study examined the rate of retransition and current gender identities of 317 initially transgender youth (208 transgender girls, 109 transgender boys; $M = 8.1$ years at start of study) participating in a longitudinal study, the Trans Youth Project. Data were reported by youth and their parents through in-person or online visits or via e-mail or phone correspondence.

RESULTS: We found that an average of 5 years after their initial social transition, 7.3% of youth had retransitioned at least once. At the end of this period, most youth identified as binary transgender youth (94%), including 1.3% who retransitioned to another identity before returning to their binary transgender identity. A total of 2.5% of youth identified as cisgender and 3.5% as nonbinary. Later cisgender identities were more common among youth whose initial social transition occurred before age 6 years; their retransitions often occurred before age 10 years.

CONCLUSIONS: These results suggest that retransitions are infrequent. More commonly, transgender youth who socially transitioned at early ages continued to identify that way. Nonetheless, understanding retransitions is crucial for clinicians and families to help make retransitions as smooth as possible for youth.

Increasing numbers of children are socially transitioning to live in line with their gender identity, rather than the gender assumed by their sex at birth, a process that typically involves changing a child's pronouns, first name, hairstyle, and clothing. Some concerns about childhood social transitions have been raised,¹ including that these children may not continue to identify as transgender, rather they might "retransition" (also called a "detransition" or "desistence"), which some suggest could be distressing for youth.¹⁻³ Research has suggested that ages 10 to 13 years may be particularly key times for retransition and that

identity may be more stable after this period for youth who show early gender nonconformity.³

Other clinicians argue that early social transitions can be beneficial for some gender-diverse youth.⁴⁻⁶ Some clinicians and scholars who support early childhood social transitions encourage families to remain open to later retransitions,^{7,8} which are seen by some as part of a youth's exploration of their gender.⁹

Unfortunately, very few data about retransitions exist in the scientific literature. We have been able to find limited data on the number of youth

abstract

^aDepartment of Psychology, Princeton University, Princeton, New Jersey; ^bDepartment of Psychology, University of Washington, Seattle, Washington; and ^cDepartment of Sociology, University of Victoria, Victoria, BC, Canada

Dr Olson conceptualized the current study, supervised data collection, carried out the initial analyses, and drafted the initial manuscript. Dr Durwood and Dr Devor conceptualized the current study and provided extensive revisions on the manuscript. Ms Horton acquired and compiled the data and tables and provided feedback on the manuscript. Dr Gallagher acquired, compiled, and analyzed the data and provided feedback on the manuscript. All authors approved the manuscript as submitted and agree to be accountable for all aspects of the work.

DOI: <https://doi.org/10.1542/peds.2021-056082>

Accepted for publication Apr 22, 2022

Address correspondence to: Kristina Olson, PhD, Department of Psychology, Princeton University, Peretsman Scully Hall, Princeton, NJ 08540. E-mail: krolson@princeton.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2022 by the American Academy of Pediatrics

FUNDING: The collection of data in this report and some of the authors' time (Dr Olson, Ms Horton, and Dr Gallagher) over the course of this project have been supported by National Institutes of Health grant HD092347; National Science Foundation grants BCS-1523632, SMA-1837857, and SMA-2041463; an Arcus Foundation grant (all to Dr Olson); and a National Science Foundation GRFP grant to Dr Durwood. In addition, Dr Olson receives financial support from the MacArthur Foundation. The funders played no role in determining the research questions asked nor have they seen the results before review.

CONFLICT OF INTEREST DISCLOSURES: The authors have indicated that they have no potential conflicts of interest to disclose.

To cite: Olson KR, Durwood L, Horton R, et al. Gender Identity 5 Years After Social Transition. *Pediatrics*. 2022;150(2):e2021056082

who socially transitioned in childhood and then go on to retransition afterward. One paper included 4 youth who socially transitioned; none of them had retransitioned 7 years later.¹⁰ We know of 3 mentions of early-transitioning youth who retransition.^{8,9} However, these papers include no mention of how many other youth the same clinical team saw who did not retransition, making it impossible to guess a retransition rate.

In the present paper, we aimed to compute an estimate of retransition among a cohort of more than 300 early-transitioning children. Here, we report the retransition rate an average of 5 years after initial (binary) social transition, as well as how many of these participants are living as binary transgender youth, nonbinary youth, and cisgender youth at the same timepoint.

METHODS

A total of 317 binary socially transitioned transgender children ($M_{age} = 8.07$; $SD = 2.36$; 208 initially transgender girls, 109 initially transgender boys; see Table 1 for additional demographics) joined this longitudinal study (The Trans Youth Project) between July 2013 and December 2017. For inclusion in The Trans Youth Project, children had to be between 3 and 12 years of age and had to have made a “complete” binary social transition,¹⁰ including changing their pronouns to the binary gender pronouns that differed from those used at their births.

As part of the larger longitudinal study, parents and youth were regularly asked about whether they had begun using puberty blockers and/or gender-affirming hormones. At most visits, they were not asked about whether puberty had begun, though our available data suggests that because these youth had socially transitioned at such early

ages, most participants were followed by an endocrinologist well before puberty began. The endocrinologists helped families identify the onset of Tanner 2 (the first stage of puberty) and prescribed puberty blockers within a few months of this time; therefore, the onset of puberty blockers is used as our proxy for the onset of puberty in youth who received blockers. Of the youth in this sample, 37 (11.7%) had begun puberty blockers before beginning this study.

This study did not assess whether participants met criteria for the Diagnostic and Statistical Manual of Mental Disorders, Fifth edition, diagnosis of gender dysphoria in children. Many parents in this study did not believe that such diagnoses were either ethical or useful, even if they had been diagnosed, and some children did not experience the required distress criterion after transitioning. Based on data collected at their initial visit, these participants showed signs of gender identification and gender-typed preferences commonly associated with their gender, not their sex assigned at birth.¹¹ Further, parent report using the Gender Identity Questionnaire for Children¹² indicated that youth showed significant “cross-sex” identification and preferences (when scored based on sex at birth).¹²

Final identity classification for these analyses was based on our most recent interaction with the child and/or their parent before January 1, 2021. Because some families have not participated recently, we also separately report (Table 2) the results of the $n = 291$ youth with whom the research team had an interaction within the 2 years before that deadline. This additional analysis allows us to assess whether those who retransitioned were more likely to have missed their more

TABLE 1 Participant Demographics ($N = 317$)

Demographics	%
Race	
White, non-Hispanic	69
White, Hispanic	9
Black	2
Asian	3
Native American	<1
Multiracial	17
Annual household income, \$	
<25 000	3
25 001–50 000	10
50 001–75 000	21
75 001–125 000	31
>125 000	35
Location	
Northeast	15
Midwest/Upper Plains	21
Southeast	15
Mountain West	13
Pacific Northwest	20
Pacific South	16

recent appointments with our team. Importantly, only 1 of the 26 families with whom we did not meet in the past 2 years has formally dropped out of the study; the others often did not complete participation during these 2 years because of personal circumstances at the time we attempted re-recruitment. We anticipate that many in this group will participate again in the future.

Based on pronouns at follow-up, participants were classified as binary transgender (pronouns associated with the other binary assigned sex), nonbinary (they/them pronouns or, $n = 3$, a mix of they/them and binary pronouns), or cisgender (pronouns associated with their assigned sex). We confirmed this classification by reviewing other information available to the research team (eg, child’s self-categorization in an interview or survey, e-mail communications with the parents). Only 1 classification was debatable; this participant was classified by pronouns (and in this paper) as nonbinary but could have been

TABLE 2 Participant Information and Current Identity at Last Visit Before January 1, 2021, Overall, for Those With Recent Visits Only, and by Initial Social Transition and Gender

	Total Sample	Recent Sample (With Visits in 2019 or 2020)	Sample Who Initially Socially Transitioned Before Age 6	Sample Who Initially Socially Transitioned at Age 6 or Later	Transgender Girls (At Recruitment)	Transgender Boys (At Recruitment)
Sample size	317	291	124	193	208	109
Assigned male at birth, %	65.6	65.3	73.4	60.6	100	0
Mean age at first transition, y	6.5	6.4	4.3	7.9	6.2	7.1
Mean age at start of study, y	8.1	8.0	5.9	9.5	7.7	8.7
Average time since start of study, y	3.8	4.1	3.8	3.8	3.9	3.7
Average time since first transition, y	5.4	5.7	5.4	5.4	5.5	5.3
Current identity, <i>n</i> (%)						
Binary transgender	298 (94.0)	276 (94.8)	112 (90.3)	186 (96.4)	194 (93.3)	104 (95.4)
Cisgender	8 (2.5)	6 (2.1)	7 (5.6)	1 (0.5)	7 (3.40)	1 (0.9)
Nonbinary	11 (3.5)	9 (3.1)	5 (4.0)	6 (3.1)	7 (3.40)	4 (3.7)

classified as binary transgender (and not retransitioned).

This study has been approved by the University of Washington and Princeton University institutional review boards.

RESULTS

The overall rate of retransition was 7.3%. An average of 5.37 years (SD = 1.74 years) after their initial binary social transition, most participants were living as binary transgender youth (94.0%; Table 2). Included in this group were 4 individuals (1.3% of the total sample) who retransitioned twice (to nonbinary then back to binary transgender). Some youth (3.5%) were currently living as nonbinary, including one who had retransitioned first to cisgender then to nonbinary. Finally, 2.5% were using pronouns associated with their sex at birth and could be categorized as cisgender at the time of data collection, including one who first retransitioned to live as nonbinary. Similar percentages were

observed when examining the 291 youth who were in touch with the research team in the past 2 years (Table 2), when examining only those 280 youth who had not begun puberty blockers at the start of the study (Table 3), or if we examine only the 200 youth who had gone at least 5 years since their initial transition (Table 3).

We observed 1 potential (post hoc) age effect. Youth who initially socially transitioned before age 6 ($n = 124$), were more likely to be living as cisgender ($n = 7$; 5.6%) than youth who transitioned at age 6 or later ($n = 1$ of 193; 0.5%), Fisher exact test (comparing binary, cisgender, nonbinary; before vs. age 6 years or later), $P = .02$, although low rates of retransition were seen in both groups. In Table 2, we also report the results separately for children assigned male versus female at birth; this distinction was not significantly associated with later identity, $P = .47$, Fisher exact test. Finally, for exploratory purposes, in Table 3, we report outcomes separately for several

subsets of our participants, including youth who had started puberty blockers, youth who had used puberty blockers and gender-affirming hormones, and youth who are at least 14 years old (the age at which past work³ has suggested retransitions will be less likely).

DISCUSSION

Five years after an initial binary social transition, 7% of youth had retransitioned at least once. Most youth (94%) were living as binary transgender youth at the time of data analysis, including 1.3% who retransitioned initially to cisgender or nonbinary and then retransitioned back to binary trans identities. A small number of youth were living as cisgender youth (2.5%) or nonbinary youth (3.5%). We observed comparable rates when examining all participants who began the study ($n = 317$), those who had been in touch with the research team in the last two years ($n = 291$), those who had gone at least 5 years since initial social transition ($n = 200$), and

TABLE 3 Participant Information and Current Identity at Last Visit Before January 1, 2021, as a Function of Stages of Medical Transition and/or Age

	Total Sample	Sample of Youth Who Had Not Begun Blockers at Start of the Study	Sample of Youth Who Have Begun Blockers (and Not Gender-Affirming Hormones) at the End of the Study	Sample of Youth Who Have Begun Gender-Affirming Hormones at the End of the study	Sample of Youth 5+ y of Age Since Initial Binary Social Transition	Sample of Youth Who Are Currently 14+ y of Age
Sample size	317	280	92	98	200	70
Assigned male at birth, %	65.6	69.6	57.6	58.2	69.0	52.9
Mean age at first transition, y	6.5	6.1	6.6	8.4	6.2	8.9
Mean age at start of study, y	8.1	7.6	8.3	10.2	8.0	10.8
Average time since start of study, y	3.8	3.9	4	4.3	4.5	4.4
Average time since first transition	5.4	5.5	5.8	6.1	6.4	6.3
Current identity						
Binary transgender	<i>n</i> = 298; 94.0%	<i>n</i> = 263; 93.9%	<i>n</i> = 88; 95.7%	<i>n</i> = 97; 99.0%	<i>n</i> = 190; 95.0%	<i>n</i> = 69; 98.6%
Cisgender	<i>n</i> = 8; 2.5%	<i>n</i> = 8; 2.9%	<i>n</i> = 1; 1.1%	<i>n</i> = 0	<i>n</i> = 4; 2.0%	<i>n</i> = 1; 1.4%
Nonbinary	<i>n</i> = 11; 3.5%	<i>n</i> = 9; 3.2%	<i>n</i> = 3; 3.3%	<i>n</i> = 1, 1.0%	<i>n</i> = 6; 3.0%	<i>n</i> = 0

those who started the study before beginning puberty blockers (*n* = 280). We found no differences as a function of participant sex at birth. We observed slightly higher rates of retransition, and particularly later cisgender identity, among youth who initially socially transitioned before age 6 years. However, even in these youth, retransition rates were very low.

Among those who had begun puberty blockers and/or gender-affirming hormones, only 1 had retransitioned to live as cisgender (and this youth had begun blockers, but not gender-affirming hormones). One likely reason so few retransitions to cisgender occurred among those accessing medical transition is that most retransitioning in this cohort happened at early ages. All but 1 of the 8 cisgender youth had retransitioned by age 9 years (the last retransition was at age 11 years). Some of these youth are still not eligible for blockers because they are still prepubertal; we anticipate that those who identify as cisgender are unlikely to seek blockers

or hormones, but that the participants who have not begun puberty and who identify as binary transgender or nonbinary likely will.

Past work has suggested that the ages 10 to 13 years are an especially critical time for retransition.³ In our sample, many of the youth who retransitioned did so before that time frame, particularly the cisgender youth. In the nonbinary group, however, 6 of 11 retransitioned between ages 10 and 13 years, with the remainder retransitioning before age 10. Importantly, our sample differed from the past work on which this age range was determined in several key ways, including that our participants socially transitioned at earlier ages (perhaps pushing retransitions earlier, too), had undergone complete social transitions including pronouns and names (not just hairstyle and clothing changes as in most cases in previous studies³), and are living at a different historic time in a different country. Any, or all, of these may turn out to be key

differences related to age of retransition.

Our observed low retransition rate is consistent with a study in which 4 youth who had completely socially transitioned had not retransitioned 7 years later.¹⁰ That finding is in the same ballpark as our study's estimate of ~2.5% if we examine the percentage living as cisgender at the end of the study (ie, those "desisting" from gender-diverse outcomes). Together, these papers suggest this outcome is relatively rare in this group.

Our observation that few youth who have begun medical intervention have retransitioned to live as cisgender is consistent with findings in the literature. Several studies reporting on outcomes among transgender youth receiving blockers and gender-affirming hormones have reported relatively low rates of regret or stopping treatment,¹³ which are potential indicators of retransition, though stopping treatment can occur for other reasons as well (eg, side

effects), as can regret (eg, experiences of transphobia).

Our key finding, that there was a relatively low rate of retransition about 5 years after initial social transition, may, on the surface, appear contradictory with past clinic-based research on what is sometimes called persistence and desistence³ of childhood gender dysphoria. Several large studies attempted to recontact adolescents and adults who had previously been evaluated for gender dysphoria in childhood.^{14–17} Many of those were formally diagnosed with what was, at the time, called gender identity disorder. Those studies reported that a minority of youth later identified in a way that might indicate a transgender identity by today's definition.

Interpretation of those results, and especially comparison with the present work, is difficult for several reasons. First, in past studies, when asked “are you a boy or a girl?” about 90% of the children supplied answers that aligned with their sex at birth,¹⁸ leading some to question whether the majority of those children were the equivalent of transgender children today or not.^{19–21} Second, participants in those studies were children between the 1960s and the 1990s, and many features of society have changed since then, including greater rates of acceptance and acknowledgment of transgender identities. Third, the parents of the youth in the current study support their children's identities, as indicated by their approval of their social transitions, whereas many of the parents of youth in past studies explicitly discouraged gender nonconformity or “cross-gender” identification.^{15,22} In addition, it would have been exceedingly rare for youth in those studies to socially transition, especially completely.^{1,10} Finally, there were substantial drop-out

rates in all of the previous studies,^{14,15,17} making the true estimates of persistence or desistence difficult to obtain.^{19,21} Because there are so many possible contributors to differences in rates of persistence (in past work) and retransition in the current work, we urge caution about overinterpreting differences, or overconfidence about which contributing factors explain the differences.

There are also some reasons why we might have had such a low retransition rate. First, on average, participants had socially transitioned 1.6 years before joining our study. It is possible that some youth initially try socially transitioning and then change their minds quickly. Such youth would be unlikely to be enrolled in this study because their eligibility period would have been quite short and therefore the odds of finding the study and completing it would have been low. This means the children in our study may have been especially unlikely, compared with all children who transition, to retransition because they had already lived and presumably been fairly content with that initial transition for more than a year. Second, it is possible that families who failed to participate in the past 2 years of our study ($n = 26$) were disproportionately those whose children retransitioned and who were therefore hesitant to participate again. If true, their exclusion could have reduced our retransition rate. We are skeptical of this possibility for a few reasons. First, 4 of these participants did retransition and had told us about that outcome, so it does not appear that hesitancy in telling us was widespread in this group. Second, many of these families continue to be in touch with our research team and only missed participation because of ongoing personal issues

(eg, COVID-19, emergency family circumstances). We anticipate that most of these families will be able to participate as we continue to follow these youth. Finally, from the beginning of the study, the research team has been clear in discussing with the families that we are open to any outcome in their youth.

As with past work, the present work has several key limitations. First, this is a volunteer community sample, meaning there could be biases in the kinds of families who sign up to participate. We know, for example, that unlike many samples of transgender youth, this sample of youth have normative levels of depression and only slight elevations in anxiety.²³ The parents of the participants in this study are disproportionately higher income and went to college at higher rates than the general population. We do not know whether these potential biases in the sample reflect biases in the cohort of children who socially transitioned in the mid-2010s in the United States and Canada. Therefore, whether the results generalize to youth without these characteristics is unknown.

Another potential limitation is that we used pronouns as the criterion for retransitions. Not everyone who, for example, uses they/them pronouns identifies as nonbinary and someone might identify as transgender even if they are currently using pronouns associated with their sex at birth. However, examination of other data provided by families suggests that our pronoun-based criteria were largely consistent with classification that would have arisen from other types of information provided to the research team (eg, labels used in an interview). Only 1 of the youth categorized as “retransitioned” might, by some other criteria, not meet that definition. However, because pronouns were the initial

inclusion criterion (that is, to be in the study children had to be using pronouns not associated with their sex at birth), they were the most consistent route of classification.

A related potential concern with these analyses is that we classified a change from using, for example, binary transgender to nonbinary as a retransition. Not everyone would categorize this change as a retransition. Many nonbinary people consider themselves to be transgender.²⁴ If we had used a stricter criterion of retransition, more similar to the common use of terms like detransition or desistence, referring only to youth who are living as cisgender, then our retransition rate would have been lower (2.5%).

One additional limitation in the present work is that the initial sample was disproportionately made up of trans girls. This is counter to recent reports that more peri- and postpubertal transgender youth seeking clinical services recently are transmasculine.^{25–27} Historically, and consistent with our data, samples of parent-identified prepubertal gender nonconforming youth have included more assigned males at birth.^{15,16,22} Importantly, we did not observe a significant gender effect in terms of rates of retransition, so we do not predict any change in pattern of results if we had a different ratio of participants by sex at birth.

We anticipate continuing to follow this cohort into adolescence and adulthood. This continued follow-up is necessary because it is possible that as more youth move into adolescence and adulthood, their identities could change. As we already saw, some youth will retransition more than once, so the present identities should not be interpreted as final.

As more youth are coming out and being supported in their transitions early in development, it is increasingly critical that clinicians understand the experiences of this cohort and not make assumptions about them as a function of older data from youth who lived under different circumstances. Though we can never predict the exact gender trajectory of any child, these data suggest that many youth who identify as transgender early, and are supported through a social transition, will continue to identify as transgender 5 years after initial social transition. These results also suggest that retransitions to one's gender assumed at birth (cisgender) might be likely to occur before age 10 years among those who socially transition at the earliest ages (before age 6 years), though retransitions are still unlikely in this group. These data suggest that parents and clinicians should be informed that not all youth will continue the same trajectory over time. Further understanding of how to support youth's initial and later transitions is needed.

ACKNOWLEDGMENTS

The authors thank the families for their participation in this research.

REFERENCES

1. Steensma TD, Cohen-Kettenis PT. Gender transitioning before puberty? *Arch Sex Behav*. 2011;40(4):649–650
2. de Vries ALC, Cohen-Kettenis PT. Clinical management of gender dysphoria in children and adolescents: the Dutch approach. *J Homosex*. 2012;59(3):301–320
3. Steensma TD, Biemond R, de Boer F, Cohen-Kettenis PT. Desisting and persisting gender dysphoria after childhood: a qualitative follow-up study. *Clin Child Psychol Psychiatry*. 2011; 16(4):499–516
4. Ashley F. Thinking an ethics of gender exploration: against delaying transition for transgender and gender creative youth. *Clin Child Psychol Psychiatry*. 2019;24(2):223–236
5. Sherer I. Social transition: supporting our youngest transgender children. *Pediatrics*. 2016;137(3):e20154358
6. Temple Newhook J, Pyne J, Winters K, et al. A critical commentary on follow-up studies and “desistence” theories about transgender and gender-nonconforming children. *Int J Transgenderism*. 2018; 19(2):212–224
7. Leibowitz S. Social gender transition and the psychological interventions. In: Janssen A, Leibowitz S, eds. *Affirmative Mental Health Care for Transgender and Gender Diverse Youth*. New York: Springer International Publishing; 2018:31–47
8. Edwards-Leeper L, Spack NP. Psychological evaluation and medical treatment of transgender youth in an interdisciplinary “Gender Management Service” (GeMS) in a major pediatric center. *J Homosex*. 2012;59(3):321–336
9. Menvielle E. A comprehensive program for children with gender variant behaviors and gender identity disorders. *J Homosex*. 2012;59(3):357–368
10. Steensma TD, McGuire JK, Kreukels BP, Beekman AJ, Cohen-Kettenis PT. Factors associated with desistence and persistence of childhood gender dysphoria: a quantitative follow-up study. *J Am Acad Child Adolesc Psychiatry*. 2013;52(6):582–590
11. Gülgöz S, Glazier JJ, Enright EA, et al. Similarity in transgender and cisgender children's gender development. *Proc Natl Acad Sci USA*. 2019;116(49):24480–24485
12. Johnson LL, Bradley SJ, Birkenfeld-Adams AS, et al. A parent-report gender identity questionnaire for children. *Arch Sex Behav*. 2004;33(2):105–116
13. Kuper LE, Stewart S, Preston S, Lau M, Lopez X. Body dissatisfaction and mental health outcomes of youth on gender-affirming hormone therapy. *Pediatrics*. 2020;145(4):e20193006
14. Drummond KD, Bradley SJ, Peterson-Badali M, Zucker KJ. A follow-up study of girls with gender identity disorder. *Dev Psychol*. 2008;44(1):34–45
15. Green R. *The Sissy Boy Syndrome: The Development of Homosexuality*. New Haven, CT: Yale University Press; 1987

16. Singh D, Bradley SJ, Zucker KJ. A follow-up study of boys with gender identity disorder. *Front Psychiatry*. 2021;12:632784
17. Wallien MS, Cohen-Kettenis PT. Psychosexual outcome of gender-dysphoric children. *J Am Acad Child Adolesc Psychiatry*. 2008; 47(12):1413–1423
18. Zucker KJ, Bradley SJ, Sullivan CB, Kuksis M, Birkenfeld-Adams A, Mitchell JN. A gender identity interview for children. *J Pers Assess*. 1993;61(3):443–456
19. Ashley F. The clinical irrelevance of “desistance” research for transgender and gender creative youth [published online ahead of print 2021]. *Psychol Sex Orientat Gend Divers*. 10.1037/sgd0000504
20. Olson KR. Prepubescent transgender children: what we do and do not know. *J Am Acad Child Adolesc Psychiatry*. 2016;55(3):155–156
21. Temple Newhook J, Pyne J, Winters K, et al. A critical commentary on follow-up studies and “desistance” theories about transgender and gender-nonconforming children. *Int J Transgenderism*. 2018;19(2):212–224
22. Zucker K, Bradley S. Gender identity disorder and psychosexual problems. In: *Children and Adolescents*. New York: Guilford Press; 1995
23. Gibson DJ, Glazier JJ, Olson KR. Evaluation of anxiety and depression in a community sample of transgender youth. *JAMA Netw Open*. 2021;4(4):e214739
24. Darwin H. Challenging the cisgender/transgender binary: nonbinary people and the transgender label. *Gend Soc*. 2020;34(3):357–380
25. Aitken M, Steensma T, Blanchard R, et al. Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. *J Sex Med*. 2015;12(3):756–763
26. de Graaf NM, Carmichael P, Steensma TD, Zucker KJ. Evidence for a change in the sex ratio of children referred for gender dysphoria: data from the Gender Identity Development Service in London (2000–2017). *J Sex Med*. 2018;15(10):1381–1383
27. Meyenburg B, Renter-Schmidt K, Schmidt G. Transidentität in Jugend und Adoleszenz: Zur Veränderung der Sexratio und der Prävalenz in den letzten eineinhalb Jahrzehnten [Changes of sex ratio and prevalence in transgender teenagers over the past 15 years]. *Z Kinder Jugendpsychiatr Psychother*. 2021;49(2):93–100

Fertility preservation for transgender adolescents and young adults: a systematic review

Shira Baram^{1,3,†}, Samantha A. Myers^{1,2,†}, Samantha Yee¹, and Clifford L. Librach^{1,3,4,5,6,7,*}

¹Create Fertility Centre, 790 Bay Street, Suite 1100, Toronto, Ontario M5G 1N8, Canada ²McMaster University, 1280 Main St W, Hamilton, Ontario L8S 4L8, Canada ³Department of Obstetrics and Gynecology, University of Toronto, 27 King's College Circle, Toronto, Ontario M5S, Canada ⁴Department of Physiology, University of Toronto, 27 King's College Circle, Toronto, Ontario M5S, Canada ⁵Institute of Medical Science, University of Toronto, 27 King's College Circle, Toronto, Ontario M5S, Canada ⁶Department of Obstetrics and Reproductive Endocrinology, Sunnybrook Health Sciences Centre; 2075 Bayview Ave, Toronto, Ontario M4N 3M5, Canada ⁷Department of Gynecology, Women's College Hospital, 76 Grenville St, Toronto, Ontario M5S 1B2 Canada

*Correspondence address: Create Fertility Centre, 790 Bay Street, Suite 1100, Toronto, Ontario, M5G 1N8, Canada. Tel: +416-323-7727; E-mail: drlibrach@createivf.com <https://orcid.org/0000-0002-9699-4059>

Submitted on April 18, 2019; resubmitted on June 21, 2019; editorial decision on July 14, 2019

TABLE OF CONTENTS

- Introduction
- Methods
 - Ethical approval
 - Population and outcomes
 - Search strategy
 - Information sources
 - Study selection
 - Study screening
 - Quality assessment
 - Data extraction
- Results
 - Sample description
 - Desire to have children
 - FP discussion, counselling and referrals
 - FP utilization
 - Attitudes/knowledge/beliefs of TAYAs
 - Attitudes/knowledge/beliefs of HCPs
 - Attitudes/knowledge/beliefs of the parents/guardians of TAYAs
 - Barriers to accessing FP
 - MtF TAYAs-related fertility concerns and effect of GAHT on fertility
 - FP outcomes in MtF TAYAs
 - FtM TAYA related fertility concerns and effect of GAHT on fertility
 - FP outcomes in FtM TAYAs

[†]Both authors have equal contribution.

© The Author(s) 2019. Published by Oxford University Press on behalf of the European Society of Human Reproduction and Embryology. All rights reserved.
 For permissions, please e-mail: journals.permissions@oup.com

- Discussion
 - Barriers to accessing FP service
 - Reproductive effects of GAHT in MtF TAYAs
 - FP options and outcomes for MtF
 - FP options and outcomes for FtM
 - Limitations
- Conclusion

BACKGROUND: Many transgender individuals choose to undergo gender-affirming hormone treatment (GAHT) and/or sex reassignment surgery (SRS) to alleviate the distress that is associated with gender dysphoria. Although these treatment options often succeed in alleviating such symptoms, they can also negatively impact future reproductive potential.

OBJECTIVE AND RATIONALE: The purpose of this systematic review was to synthesize the available psychosocial and medical literature on fertility preservation (FP) for transgender adolescents and young adults (TAYAs), to identify gaps in the current research and provide suggestions for future research directions.

SEARCH METHODS: A systematic review of English peer-reviewed papers published from 2001 onwards, using the preferred reporting items for systematic reviews and meta-analyses protocols (PRISMA-P) guidelines, was conducted. Four journal databases (Ovid MEDLINE, PubMed Medline, Ovid Embase and Ovid PsychINFO) were used to identify all relevant studies exploring psychosocial or medical aspects of FP in TAYAs. The search strategy used a combination of subject headings and generic terms related to the study topic and population. Bibliographies of the selected articles were also hand searched and cross-checked to ensure comprehensive coverage. All selected papers were independently reviewed by the co-authors. Characteristics of the studies, objectives and key findings were extracted, and a systematic review was conducted.

OUTCOMES: Included in the study were 19 psychosocial-based research papers and 21 medical-based research papers that explore fertility-related aspects specific for this population. Key psychosocial themes included the desire to have children for TAYAs; FP discussions, counselling and referrals provided by healthcare providers (HCPs); FP utilization; the attitudes, knowledge and beliefs of TAYAs, HCPs and the parents/guardians of TAYAs; and barriers to accessing FP. Key medical themes included fertility-related effects of GAHT, FP options and outcomes. From a synthesis of the literature, we conclude that there are many barriers preventing TAYAs from pursuing FP, including a lack of awareness of FP options, high costs, invasiveness of the available procedures and the potential psychological impact of the FP process. The available medical data on the reproductive effects of GAHT are diverse, and while detrimental effects are anticipated, the extent to which these effects are reversible is unknown.

WIDER IMPLICATIONS: FP counselling should begin as early as possible as a standard of care before GAHT to allow time for informed decisions. The current lack of high-quality medical data specific to FP counselling practice for this population means there is a reliance on expert opinion and extrapolation from studies in the cisgender population. Future research should include large-scale cohort studies (preferably multi-

Key words: transgender / gender dysphoria / gender reassignment / sex reassignment / fertility preservation / cryopreservation / oocyte cryopreservation / sperm cryopreservation / systematic review

Introduction

Gender dysphoria is a condition in which a person experiences internal psychological conflict due to incongruence of his/her gender assigned at birth and the gender with which he/she identifies (Coleman *et al.*, 2012). The estimated prevalence of adults who identify as ‘transgender’ or ‘gender nonconforming’ in the USA is 0.6% of the population (Flores *et al.*, 2016; Crissman *et al.*, 2017; Herman *et al.*, 2017). Based on these data, it has been estimated that 0.7% of youth aged 13 to 17 years identify as transgender (Rafferty, 2018); estimations that are much higher than those previously made (Coleman *et al.*, 2012; Arcelus *et al.*, 2015) and which may differ according to definition (Collin *et al.*, 2016) and geographical location (T’Sjoen *et al.*, 2019). Despite an increasing focus on transgender health research, gender nonconforming youth and young adults remain an underserved population that is seen more often by health care professionals generally and in fertility clinics (Arcelus *et al.*, 2015; Wiepjes *et al.*, 2018).

Many, though not all, transgender adolescents and young adults (TAYAs) choose to undergo treatment to alleviate the distress associated with gender dysphoria (see Table I for glossary of terms) (Meriggiola and Gava, 2015a, 2015b; T’Sjoen *et al.*, 2019). Treatment

of transgender persons should be individual and multidisciplinary and consist of medical treatment aimed at suppression of assigned gender sexual characteristics, gender-affirming hormone treatment (GAHT) and/or sex reassignment surgery (SRS). While these treatment options often help alleviate the symptoms of gender dysphoria, decrease depression and increase self-esteem (Gorin-Lazard *et al.*, 2013), there are significant fertility risks that should be considered prior to commencing the transition process. SRS is irreversible and most often leads to sterility. The effect of GAHT on fertility appears to be somewhat unpredictable in terms of its possible long-term negative impact on fertility preservation (FP) outcomes and future reproductive potential (Hembree *et al.*, 2009; Hembree *et al.*, 2017).

Psychosocial studies have reported that many transgender individuals are eager to medically transition, and some may even choose to start GAHT during their adolescence (Auer *et al.*, 2018). Due to the young age of these individuals, their future of having biological children may not yet be a concern (Wierckx *et al.*, 2012a); however, it is likely that some may develop a desire to have biological children later in life. The decision to transition early may cause these individuals to later regret undergoing these treatments and/or procedures without considering

Table I Glossary of terms.

Term	Definition
Cisgender ^a	A term for a person whose gender identity matches the gender they were assigned at birth; someone who is not trans.
Cisnormative/cisnormativity ^a	The assumption, in individuals or in institutions, that everyone is cisgender (not trans).
Gender dysphoria	A mental state involving an internal conflict between one's gender assigned at birth and the gender with which he/she/they identify.
Gender identity ^b	A person's intrinsic sense of being male (a boy or a man), female (a girl or woman) or an alternative gender (e.g. boygirl, girlboy, transgender, genderqueer and eunuch) (Bockting, 1999; Stoller, 1964).
Heteronormative/Heteronormativity ^a	The assumption, in individuals or in institutions, that everyone is heterosexual.
Non-binary	One's gender is not exclusively male or female.
Transgender ^b	Adjective to describe a diverse group of individuals who cross or transcend culturally defined categories of gender. The gender identity of transgender people differs to varying degrees from the sex they were assigned at birth (Bockting, 1999).
Transgender man (FtM) ^b	Adjective to describe individuals assigned female at birth who are changing or who have changed their body and/or gender role from birth-assigned female to a more masculine body or role.
Transgender woman (MtF) ^b	Adjective to describe individuals assigned male at birth who are changing or who have changed their body and/or gender role from birth-assigned male to a more feminine body or role.
Transition ^b	Period of time when individuals change from the gender role associated with their sex assigned at birth to a different gender role. For many people, this involves learning how to live socially in another gender role; for others this means finding a gender role and expression that are most comfortable for them. Transition may or may not include feminization or masculinization of the body through hormones or other medical procedures. The nature and duration of transition are variable and individualized.
Transphobia ^a	Fear or hatred of trans people; discrimination directed toward people who are or are presumed to be trans.
Transsexual ^b	Adjective (often applied by the medical profession) to describe individuals who seek to change or who have changed their primary and/or secondary sex characteristics through feminizing or masculinizing medical interventions (hormones and/or surgery), typically accompanied by a permanent change in gender role.

^aDefinition copied verbatim from James-Abra et al., (2015).

^bDefinition copied verbatim from the World Professional Association for Transgender Health *Standards of Care* Version 7 by Coleman et al. (2012).

the fertility risks and future limitations to their family building plan (De Sutter et al., 2002; Wierckx, et al., 2012b).

Several organizations, including the World Professional Association for Transgender Health (WPATH), American College of Obstetrics and Gynecology (ACOG), the American Society of Reproductive Medicine (ASRM) and the Endocrine Society, have issued guidelines recommending that all transgender individuals receive counselling prior to transitioning on the possible negative impacts of GAHT and SRS on fertility and the subsequent available FP options (Coleman et al., 2012; Ethics Committee of the ASRM, 2015; Committee on Adolescent Health Care of the ACOG, 2017; Hembree et al., 2017; Rafferty, 2018).

The mainstay of FP medical options includes oocyte cryopreservation, embryo cryopreservation and ovarian tissue cryopreservation (OTC) for transgender men (FtM) and sperm cryopreservation and testicular tissue cryopreservation (TTC) for transgender women (MtF) (James-Abra et al., 2015; Martinez, 2017). It should be noted that TTC (Picton et al., 2015) and spermatogonial stem cell (SSC) cryopreservation (Sato et al., 2011; Vassena et al., 2015; Sun et al., 2018) are generally considered experimental. OTC is not readily accessible in some countries (Lee et al., 2006; Loren et al., 2013; Zarandi et al., 2018). Embryo cryopreservation for single individuals may not be an acceptable option because of the use of donor gametes to create embryos. Thus, oocyte and sperm cryopreservation are the most commonly utilized FP options for these individuals

(James-Abra et al., 2015). The young age of TAYAs pursuing GAHT and lack of high-quality data create a dilemma when counselling patients regarding fertility risk and FP (see Table II for an overview of FP options).

The reproductive needs of TAYAs have largely been ignored by medical practitioners (Hunger, 2012), though these individuals may be very interested in their future potential of having children. While some studies suggest that TAYAs are concerned with the idea of postponing GAHT in order to preserve their fertility (Armund et al., 2017; Bartholomaeus and Riggs, 2019), there are several other factors that may prevent TAYAs from pursuing FP. TAYAs may not be aware of the fertility risks of undergoing GAHT without receiving proper FP counselling (Coleman et al., 2012). Given the oocyte cryopreservation process is an expensive medical procedure, cost can be a major barrier preventing FtM TAYAs from pursuing FP (James-Abra et al., 2015). Several countries, such as Canada (Government of Ontario, 2017) and Sweden (Armund et al., 2017), cover some or all of the cryopreservation costs for individuals diagnosed with gender dysphoria; however, TAYAs who lack knowledge regarding FP may not even be aware of these subsidies. It is crucial to explore the attitudes, knowledge and beliefs of healthcare providers (HCPs), given the position they are in to discuss with TAYAs the fertility risks associated with GAHT and to inform them of FP options. It is also important to explore the attitudes, knowledge and beliefs of the parents/guardians of TAYAs.

Table II Fertility preservation options for TAYAs.

	Method	Procedure	Considerations	Application
MtF transgenders	Sperm cryopreservation	<ul style="list-style-type: none"> • Masturbation • Assisted ejaculation (vibratory stimulation or electro-stimulation) 	<ul style="list-style-type: none"> • Clinically available • Post-pubertal 	<ul style="list-style-type: none"> • Female partner: use for IUI, IVF or IVF/ICSI and ET, depending on sperm quality • Male/no partner: need for donor oocytes and surrogacy
	Surgical sperm retrieval	<ul style="list-style-type: none"> • Percutaneous sperm aspiration/extraction 	<ul style="list-style-type: none"> • Clinically available • Invasive • Post-pubertal 	<ul style="list-style-type: none"> • Female partner: IVF/ICSI and ET • Male/no partner: need of donor oocytes and surrogacy
	Testicular tissue cryopreservation and spermatogonium cell cryopreservation	<ul style="list-style-type: none"> • Surgical biopsy of testicular tissue • Can potentially be done at SRS 	<ul style="list-style-type: none"> • Experimental • Pre- or post-pubertal 	<ul style="list-style-type: none"> • Requires in vitro maturation • Female partner: IVF/ICSI and ET • Male/no partner: need of donor oocyte and surrogacy
FtM transgenders	Embryo cryopreservation	<ul style="list-style-type: none"> • COH and oocyte retrieval with fertilization of mature oocytes and cryopreservation of embryos 	<ul style="list-style-type: none"> • Clinically available • Invasive • Post-pubertal • Need of sperm 	<ul style="list-style-type: none"> • Male partner: use of partner's sperm, need for surrogate if no uterus • Female/no partner: need for donor sperm. Embryo can be transferred into partner's uterus
	Oocyte cryopreservation	<ul style="list-style-type: none"> • COH and oocyte retrieval with cryopreservation of mature oocytes 	<ul style="list-style-type: none"> • Clinically available • Invasive • Post-pubertal • No partner required 	<ul style="list-style-type: none"> • Male partner: use of partner's sperm, need for surrogate if no uterus • Female/no partner: need for donor sperm. Embryo can be transferred into partner's uterus
	In Vitro Maturation (IVM)	<ul style="list-style-type: none"> • Retrieval of immature oocytes with or without mild ovarian stimulation • Ex vivo collection of immature oocytes at the time of SRS 	<ul style="list-style-type: none"> • In vivo: clinically available, invasive • Ex vivo-experimental • No partner required 	<ul style="list-style-type: none"> • Male partner: use of partner's sperm, need for surrogate if no uterus • Female/no partner: need for donor sperm. Embryo can be transferred into partner's uterus
	Ovarian tissue cryopreservation	<ul style="list-style-type: none"> • Surgical excision of ovarian tissue for cryopreservation • Can be performed at the time of SRS 	<ul style="list-style-type: none"> • Clinically available • Pre- and post-pubertal • No need for COH • No partner required 	<ul style="list-style-type: none"> • Re-transplantation of cryopreserved tissue and possible IVF (clinically proven) • In vitro maturation and use of partner's or donor sperm (experimental at this stage)

COH: controlled ovarian stimulation; ET: embryo transfer; FP: fertility preservation; SRS: sex reassignment surgery; TAYAs: transgender adolescents and young adults.

Since many transgender individuals are often adolescents during the time of GAHT, their parents/guardians may have a significant impact on the FP decision-making process.

This systematic review aims to examine both the psychosocial and medical aspects of FP in TAYAs. First, to better understand the facilitators and barriers for TAYAs to undergo FP, we examine the attitudes, knowledge and beliefs of TAYAs, their parents/guardians and HCPs on FP. Second, we conduct a review of current data regarding the risks of GAHT, FP options and outcomes specific to this population. In addition, we identify future research directions that are vital to improve awareness and knowledge of FP for TAYAs.

Methods

Ethical approval

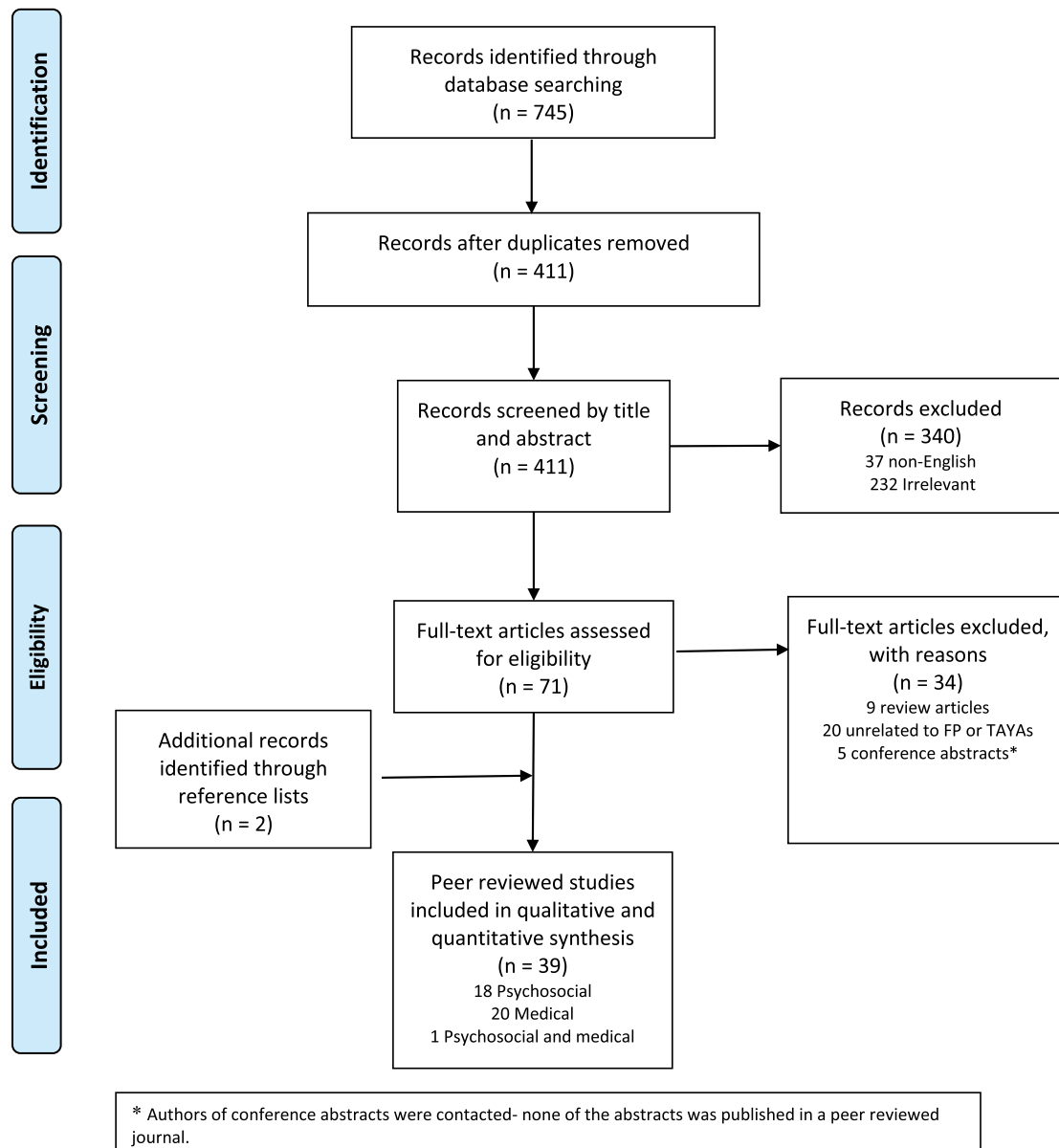
This study was a systematic review of aggregated published data so no formal ethical approval was required.

Population and outcomes

A comprehensive review of studies evaluating all aspects of FP among TAYAs, both psychosocial and medical, was conducted. The population was TAYAs, their guardians and HCPs. For the psychosocial review, the primary outcomes were FP counselling and utilization rates; the secondary outcomes were TAYAs' desire to have children, as well as the attitudes, knowledge and beliefs of TAYAs, their parents and HCPs. For the medical review, the primary outcomes were complications and GAHT effects on testes and ovaries (semen parameters, number of mature oocytes, testicular/ovarian morphology, hormone levels and ultrasound appearance), and secondary outcomes were pregnancy and live birth rates after use of preserved gametes.

Search strategy

This systematic review of the literature was undertaken in accordance to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines (Moher *et al.*, 2009). The protocols for



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Figure 1 PRISMA 2009 flow diagram for a systematic review of fertility preservation for transgender adolescents and young adults. TAYAs: transgender adolescents and young adults, FP: fertility preservation

searching and assessing the literature were determined prior to the start of the literature search.

Information sources

The search strategy was developed by the research team in consultation with an experienced research librarian. A comprehensive literature search using four electronic databases (Ovid MEDLINE®, PubMed® Medline, Ovid Embase® and Ovid PsychINFO®) was conducted to identify all relevant studies relating to the study topic. Examples of search keywords included 'transgender', 'transwomen', 'trans-women', 'transmen', 'trans-men', 'transsexual*', 'gender dys-

phoria', 'sex reassignment', 'gender affirming', 'gender reassignment' or 'gender transitioning' and 'fertility preservation' or 'reproductive technologies' (see [Supplementary Table S1](#) for all the search terms and search strategy). The search was conducted using appropriate controlled vocabularies and a combination of subject headings and generic terms. The final search was conducted on 22 March 2019 to ensure inclusion of all relevant studies.

Study selection

Given that FP for TAYAs is a relatively recent practice, we included studies published from 2001 onward. Only peer-reviewed papers,

articles written in English and studies involving human subjects were included. Exclusion criteria were articles in the form of abstracts, clinical reviews, clinical overviews, opinion pieces, editorial letters, media reports and theses/dissertations. The bibliographies of the included studies were cross-checked and hand searched for further references to ensure comprehensive coverage of all relevant papers.

Study screening

All selected abstracts following the first search ($n = 745$) were screened to eliminate duplicates and were subsequently reviewed independently by three authors (S.B., S.A.M. and S.Y.) based on the PRISMA 2009 guidelines using the inclusion and exclusion criteria referenced above. As shown in the PRISMA flow diagram (Figure 1), 340 articles were excluded based on title and abstract screening, 71 full text articles were assessed for eligibility, of which 19 were included for the psychosocial analysis and 19 were included for the medical analysis (one of which is included in both). Of those excluded articles, 9 were review papers, 20 were deemed unrelated to FP in TAYAs and 5 were conference abstracts that were not published in a peer-reviewed journal as confirmed by the corresponding authors. Two additional articles were added to the medical review after snowballing the references of articles identified (for a total of 21 publications). Disagreements regarding inclusion or exclusion were resolved first by discussion and deliberation and, if needed, by the senior author (C.L.L.). See Tables III–V for a summarized description of the studies.

Quality assessment

Quality assessment was conducted using a modified checklist by Downs and Black (1998). Two common modifications were made to better suit the type of studies included and to aid in coding. This resulted in a 27-item checklist for assessment of the methodological quality. The criteria covered in the Downs and Black checklist included quality of reporting, internal validity (bias and confounding), power, as well as external validity. Each study received a score between 0 and 27. Since many of the categories in Downs and Black (1998) are not applicable for studies with a small sample size, small case series and case reports with a sample size of ≤ 5 were automatically appraised as poor quality without a formal assessment. Quality assessment was performed independently by the co-authors (S.A.M. and S.Y. for the psychosocial review; S.B. and C.L.L. for the medical review) and an experienced statistician. Differences in rating were resolved through discussion until consensus was reached.

Data extraction

Two data extraction spreadsheets were developed and agreed upon between the co-authors. The selected studies were comprehensively assessed; all relevant data were extracted and entered into the spreadsheets by S.A.M. and S.Y. for the psychosocial review and by S.B. for the medical review and cross-checked by C.L.L. Information selected included author details, year of publication, country of study, study objectives, sample size, data collection time period, methodology, sample characteristics, outcomes and findings. Disagreements were resolved by discussion and if needed by the senior author (C.L.L.).

Results

Sample description

The 19 papers selected for the systematic review of psychosocial aspects include chart reviews (4), prospective interviews (1), retrospective interviews (4) and cross-sectional questionnaires (10), from seven countries: Australia (3), Belgium (2), Canada (3), Germany (1), Netherlands (1), Sweden (2) and the USA (7) (Table II). Among the 19 papers, 6 US papers (Johnson *et al.*, 2016; Chen *et al.*, 2017; Nahata *et al.* 2017; Kyweluk *et al.*, 2018; Chen *et al.*, 2019; Tishelman *et al.*, 2019) and 3 Australian papers (von Doussa *et al.*, 2015; Riggs and Bartholomaeus, 2018; Bartholomaeus and Riggs, 2019) were published by teams comprising overlapping co-authors. The sampling groups of these papers are FtM TAYAs (two), MtF TAYAs (two), both MtF and FtM TAYAs (nine), both MtF and FtM TAYAs as well as their parents (two) and HCPs (four). Data collection sites in these studies include fertility clinics (two), medical centers (one), pediatric transgender clinics (six), gender clinics (one) and organizations and groups (nine). Two sets of papers presented different sub-data sets from the same project that examined either the views of TAYAs (Riggs and Bartholomaeus, 2018; Bartholomaeus and Riggs, 2019) or HCPs (Chen *et al.*, 2019; Tishelman *et al.*, 2019). The topics discussed in the papers include the desire to have children; FP discussions, counselling and referrals; FP utilization; attitudes, knowledge and beliefs of TAYAs, HCPs and the parents of TAYAs and barriers to accessing FP (Supplementary Table SII).

The 21 papers selected for the systematic review of medical FP aspects include prospective cohort studies (5), observational cohort studies (1), observational case control studies (1), retrospective chart reviews (10), case series (3) and case reports (1) from nine countries: Belgium (3), Canada (1), France (1), Germany (2), Italy (1), Japan (1), Netherlands (2), Thailand (1), USA (8) and USA/Belgium (1) (Tables IV and V). Studies evaluated both MtF and FtM FP-related aspects. Among topics discussed in the selected papers are GAHT effects on testis and ovaries, effect on spermatogenesis and oocytes and FP outcomes.

The quality assessment using the Downs and Black (1998) checklist is shown in Tables III–V (see Supplementary Tables SIII and SIV for the full quality assessment). The average score was 12.16 (range 6–18) for the psychosocial papers and 12.76 (range 8–18) for the medical papers. Papers exploring MtF TAYAs had an average score of 11.66, whereas those exploring FtM TAYAs had a higher average score of 14, yet four of the case series papers (Wallace *et al.*, 2014; Broughton and Omurtag, 2017; Maxwell *et al.*, 2017; Chen *et al.*, 2018) with a sample size of ≤ 5 were not rated, as discussed above.

Desire to have children

Eight papers discussed the desire of TAYAs to have children, with two studies focused on MtF TAYAs (De Sutter *et al.*, 2002; Brik *et al.*, 2019), one study on FtM TAYAs (Wierckx *et al.*, 2012b) and five studies on both groups (von Doussa *et al.*, 2015; Auer *et al.*, 2018; Riggs and Bartholomaeus 2018; Strang *et al.*, 2018; Chiniara *et al.*, 2019;). Between one-third and two-thirds of TAYAs desire to have children sometime in their lifetime, biological or otherwise, and changes of parenthood desire were noted throughout the transition process (Strang *et al.*, 2018). Before undergoing GAHT, the majority (65.4% MtF, 53% FtM) of TAYAs indicated that having children was

Table III Description of studies examining the FP psychosocial aspects in TAYAs.

Author (Year), Country	Study design	Sample size and group(s)	Age range, mean age (years)	Data collection site(s)	Data collection period	Objectives	D&B score
Armuard et al. (2017) Sweden	Prospective qualitative; semi-structured interview	n = 15 FtM	Age range 19–35, mean age 25	Single site involving a university hospital-based IVF clinic	Mar 2014 to Dec 2015	To explore the experiences of FtM in oocyte cryopreservation.	12
Auer et al. (2018) Germany	Cross-sectional quantitative; self-constructed questionnaire	n = 189 transgender people (99 MtF and 90 FtM)	Age range 26–51 (MtF); ages 20–37 (FtM)	Multi-sites involving four different medical centers	Nov 2013 to Oct 2016	To examine how the desire for children and the use of FP options vary among transgender women and transgender men in different transitioning stages.	18
Bartholomaeus & Riggs (2019) Australia	Qualitative analysis on comments provided in a self-constructed questionnaire	n = 295 transgender and non-binary adults	N/A	Convenience sample via Internet, organizations and groups	Jan to Feb 2018	To understand transgender and non-binary individuals' experiences with HCPs in FP.	14
Brik et al. (2019) Netherlands	Retrospective chart review	n = 35 MtF adolescents	Mean age 15	Single site involving a pediatric gender clinic at a medical center	June 2011 to Aug 2017	To examine the frequency of fertility information provision and FP discussion, and the factors associated with the use of FP.	17
Chen et al. (2017) USA	Retrospective chart review	n = 105 transgender adolescents	Not clearly specified	Single site involving a pediatric gender clinic at a children hospital	July 2013 to July 2016	To examine the FP utilization by transgender adolescents in a pediatric gender clinic.	13
Chen et al. (2019) USA	Cross-sectional quantitative; self-constructed questionnaire	n = 202 HCPs	N/A	Convenience sample at transgender health conferences	Aug to Nov 2017	To examine fertility knowledge, practice behaviours, and perceived barriers to fertility care among transgender HCPs.	14
Chiniara et al. (2019) Canada	Cross-sectional quantitative; self-constructed questionnaire	n = 79 transgender adolescents and 73 parents	Age range 12–18	Single site involving a pediatric gender clinic at a children hospital	Not specified	To investigate the views of young people with gender dysphoria and their parents on FP, reproductive and life priorities.	16
De Sutter et al. (2002) Belgium	Cross-sectional quantitative; self-constructed questionnaire	n = 121 MtF	70% were ages 30–50	Convenience sample via Internet, organizations and groups	April 2002 to Sept 2002	To explore how trans women feel about sperm banking prior to commencing any medical treatment.	10
James-Abra et al. (2015) Canada	Retrospective qualitative; semi-structured interview	n = 11 (9 trans people and their partners). n = 12 HCPs	Age range 26–45	Convenience sample via Internet and by mail	Dec 2010 to Aug 2011	To explore the experiences of trans persons who sought assisted reproduction services.	12
Johnson et al. (2016) USA	Cross-sectional quantitative; self-constructed questionnaire	n = 12 HCPs	N/A	Convenience sample involving a multidisciplinary gender and sex diversity fertility working group	2015	To understand the perspectives and priorities of HCPs who care for gender and sex diverse patients.	6

(Continued)

Table III (Continued)

Author (Year), Country	Study design	Sample size and group(s)	Age range, mean age (years)	Data collection site(s)	Data collection period	Objectives	D&B score
Jones et al. (2016) Canada	Retrospective chart review	n = 14 (11 MtF and 3 FtM)	MtF: Age range 20–40, mean age 26; FtM: Age range 33–39, mean age 36	Single site involving a university-affiliated IVF clinic	Jan 2010 to May 2014	To identify all transgender patients referred for FP at one university-affiliated fertility clinic.	13
Kyweluk et al. (2018) USA	Retrospective qualitative; semi-structured interview	n = 18 (6 MtF and 12 FtM)	Age range 15–24	Single site involving a pediatric gender clinic at a children hospital	Dec 2016 to Aug 2017	To explore transgender youth's perspective on family building possibilities and imagined parenthood futures via FP technologies.	10
Nahata et al. (2017) USA	Retrospective chart review	n = 73 (23 MtF and 50 FtM adolescents)	Age range 9–18, median 15	Single site involving a pediatric gender clinic at a children hospital	Jan 2014 to Aug 2016	To examine the rates of fertility counseling and utilization of FP among a cohort of adolescents with gender dysphoria.	17
Payne & Erbenius (2018) Sweden	Retrospective qualitative; semi-structured interview	n = 7 HCPs and transgender advocates	N/A	Snowball sample involving professionals from different organizations	2015 to 2017	To explore the perspective of professionals on the changing practice and remaining obstacles of transgender fertility care.	3
Riggs & Bartholomaeus (2018) Australia	Cross-sectional quantitative; self-constructed questionnaire	n = 409 trans people (131 FtM, 97 MtF, and 181 non-binary or agender)	Age range 18–72, mean age 29	Convenience sample via Internet, organizations and groups	Jan to Feb 2018	To understand the FP decision making process of Australian transgender and non-binary individuals.	11
Strang et al. (2018) USA	Cross-sectional quantitative; standardized questionnaire	n = 51 trans youth and their parents (10 MtF, 14 FtM, 1 non-binary person, and 26 parents)	Not clearly specified	Single site involving an academic children's hospital	Not specified	To assess the attitudes of transgender youth and parents regarding the potential impact of GAHT on fertility and FP options.	11
Tishelman et al. (2019) USA	Qualitative analysis on comments provided in a self-constructed questionnaire.	n = 110 HCPs	N/A	Convenience sample via organizations and groups	Aug to Nov 2017	To examine provider perceptions of practice behaviors and barriers related to fertility counseling, FP and family building among transfer patients.	8
von Doussa et al. (2015) Australia	Retrospective qualitative; semi-structured interview	n = 13 transgender adults	Age range 23–62, mean age 47	Convenience sample via organizations and groups	Not specified	To explore the views and experiences of transgender adults on parenthood, and/or the ways they have negotiated parenthood with their transgender identity.	9
Wierckx et al. (2012) Belgium	Cross-sectional quantitative; self-constructed and standardized questionnaires	n = 50 FtM	Age range 22–54, mean age 37	Single site involving an academic hospital	Nov 2009 to Apr 2010	To provide information on the reproductive wishes of transsexual men after sex reassignment surgery.	17

HCPs: health care providers; D&B: Downs and Black (1998), GAHT: gender-affirming hormone treatment.

Table IV Description of studies examining FP medical aspects in MtF TAYAs.

Author (Year), Country	Study design	Sample size and group(s)	Mean age \pm SD (range) (years)	Study period (years)	GAHT	Treatment median length and range	Objectives	Main outcomes	D&B score
Adeleye et al. (2019) USA	Retrospective cohort study	n = 28 (18—no prior GAHT use, 3—previous use, 5— current use)	(18–39.9)	2012–2018	Estrogen (oral 2–6 mg/transdermal 300 mcg/conjugated estrogen 0.625 mg/d) plus Spironolactone 50/100 mg BID/ Finasteride 2.5–5 mg/ micronized Progesterone 100 mg	30 months for current users 42 months for prior use (mean discontinuation 4.4 months)	To describe semen parameters in MtF TAYAs in the presence or absence of GAHT	Semen parameters	18
Hamada et al. (2015) USA/Belgium	Retrospective cohort study	n = 29	28.4 \pm 1.1 (21–41)	2003–2011	None	N/A	To describe semen parameters in MtF TAYAs referred to sperm banking	Semen parameters	9
Jindarak et al. (2018) Thailand	Retrospective analysis	n = 173	26.09 \pm 5.37	2000–2015	Oral contraceptive/ Estrogen \pm antiandrogen/ Spironolactone	8.51 \pm 4.67 years	To identify spermatogenesis abnormalities in MtF TAYAs at the time of SRS To analyze the association between level of infertility and duration of GAHT	Testicular histology and spermatogenesis	10
Jones et al. 2016 Canada	Retrospective case series	n = 11	28.5 (20–40)	2010–2014	Recorded for 6/11, medications not specified	0.33 months	To define the population of transenders referred to a fertility clinic for FP	Semen parameters	12
Kent et al. (2018) USA	Retrospective chart review	n = 135	30 (18–76)	2014–2017	Spironolactone \pm Estrogen \pm Finasteride \pm Progesterone	5 years (1–57 years)	To examine post orchiectomy specimens of MtF TAYAs in order to evaluate the testicular effects of GAHT on a microscopic level and malignant changes	Testicular histology and spermatogenesis	11
Leavy et al. (2017) Germany	Prospective cohort study	n = 9 (7 controls)	26–52		Estrogen (estradiol gel/oral) \pm GnRH ana- logue/antiandrogen/ progesterin/progesterin	24 months (1–6 years)	To assess the effects of estrogen treatment on the functional morphology of the testis and on spermatogenesis in MtF TAYAs	Testicular cellular morphology and function	8

(Continued)

Table IV (Continued)

Author (Year), Country	Study design	Sample size and group(s)	Mean age \pm SD (range) (years)	Study period (years)	GAHT	Treatment median length and range	Objectives	Main outcomes	D&B score
Li et al. (2018) USA	Retrospective analysis	n = 78 (compared to 141 healthy cisgender samples)	TAYA: 24.1 \pm 7.6 Control: 36.0 \pm 9.4	2006–2016	None	N/A	To assess the incidence of MtF TAYAs seeking sperm cryopreservation compared to cismen and compare semen parameters between the two populations	Semen parameters and cryosensitivity analysis	16
Matoso et al. (2018) USA	Retrospective cohort	n = 50 (99 specimens) compared with 15 controls	33 (21–63)	2015–2018	Estrogen + Spironolactone/ Finasteride/ Progesterone	6 months–20 years	To study the histologic and immunohistochemical finding in orchiectomy specimens from MtF TAYAs	Testicular histology	10
Schneider et al. (2015) Germany	Multicenter prospective cohort study	n = 108 (22—stopped GAHT 6 weeks prior to SRS; 51—stopped 2 weeks prior to SRS and 35—continued GAHT)	42	2012–2014	Cyproterone acetate (10–100 mg)/ Spironolactone \pm Estrogen		To evaluate the effectiveness of GAHT. To investigate blood hormone levels and testicular histology on the day of SRS	Hormone levels; testicular histology	11

D&B: Downs and Black (1998); GAHT: gender-affirming hormone treatment; SRS: sex reassignment surgery.

important to them. By contrast, only about a quarter (22% MtF, 25% FtM) expressed a desire to have children during the GAHT process, although 7 in 10 TAYAs (70% MtF, 69% FtM) recalled that having children had been an important issue for them prior to the transitioning (Auer et al., 2018). In regard to the importance of genetic relatedness, 12% (Strang et al., 2018), 34% (Riggs and Bartholomaeus, 2018) and 50% (De Sutter et al., 2002) of TAYAs preferred to have their own biological children, yet 9% (7 out of 79) would be frustrated if they could not have a biological child (Chiniara et al., 2019). Almost half (48%) of TAYAs acknowledged that their feelings about having biological children could change in the future (Strang et al., 2018).

FP discussion, counselling and referrals

Nine papers reported the findings related to FP discussion, counselling and referrals (von Doussa et al., 2015; Armuand et al., 2017; Chen et al., 2017; Nahata et al., 2017; Riggs and Bartholomaeus, 2018; Brik et al., 2019; Bartholomaeus and Riggs, 2019; Chen et al., 2019; Chiniara et al., 2019). The process of FP discussion and referrals was described in three out of the four retrospective chart review studies conducted in pediatric gender clinics (Chen et al., 2017; Nahata et al., 2017; Chiniara et al., 2019). Patients diagnosed with gender dysphoria were referred to pediatric endocrinologists who specialize in the care of TAYAs. During counselling sessions, both endocrinologists and other HCPs used a multidisciplinary team approach to meet with patients and families to discuss the risks and benefits of GAHT and the available FP options. Fertility discussion was incorporated in the clinic protocol, in that all TAYAs received a routine FP discussion through verbal counselling and provision of written information prior to commencing GAHT. Subsequent referrals for FP consultation were made by in-house social workers or practice nurses for patients interested in pursuing cryopreservation. Of these four studies, three showed a very high frequency of FP counselling before initiating GAHT, with discussion rates of 100% (79 out of 79) (Chiniara et al., 2019), 98.6% (72 out of 73, mean age 16.5 years) (Nahata et al., 2017) and 91% (32 out of 35, mean age 14.8 years) (Brik et al., 2019). By contrast, only 13 out of 105 TAYAs (12.4%, mean age 16.5 years) received a formal FP consultation prior to initiating GAHT in the Chen et al. (2017) study.

Apart from the studies conducted at gender clinics, low discussion rates of the potential negative impacts of GAHT on future biological parenthood and available FP options were reported (von Doussa et al., 2015; Riggs and Bartholomaeus, 2018; Bartholomaeus and Riggs, 2019). Some TAYAs had to initiate an FP discussion and asked for an FP referral, as opposed to being referred for FP counselling routinely as a standard protocol (Armuand et al., 2017; Chen et al., 2017). In an Australian study by Riggs and Bartholomaeus (2018), 68.2% (210 out of 308, mean age 28.5 years) of transgender participants did not recall receiving FP counselling or advice, and only 22.7% (70 out of 308) reported having such discussion. Among those who were counselled about FP, positive experiences were often reported when the endocrinologist was also a fertility specialist (James-Abra et al., 2015), the HCPs were sensitive to and knowledgeable about transgender health care (von Doussa et al., 2015; Armuand et al., 2017) and the counselling was provided in trans-friendly clinic environments (James-Abra et al., 2015; Auer et al., 2018).

Table V Description of studies examining FP medical aspects in FtM TAYAs.

Author (Year), Country	Study design	Sample size	Mean age \pm SD (range)	Study period	GAHT	Treatment median length (weeks/months \pm SD) + range	Objectives	Main outcomes	D&B score
Broughton et al. (2017) USA	Case series	n = 3	31 (30–32)	2015–2016	Case 1: Testosterone depot (IM); Cases 2&3: none	26 months—discontinued for 3 months prior to FP	To describe one institutional experience with different clinical scenarios	Cycle description and results	
Caanen et al. (2015) Netherlands	Observational prospective cohort study	n = 22	22.4 \pm 6.8	2010–2012	Testosterone transdermal gel and aromatase inhibitor + GnRH analogue	24 weeks	To investigate the influence of androgenic treatment on AMH levels in FtM TAYAs	Hormone levels	15
Caanen et al. (2017) Netherlands	Prospective, observational, case control study	n = 56 (controls = 60)	22.8 (19.6–26.3)	2014–2015	Testosterone IM or transdermal	29.5 months	To identify the effect of long-term testosterone treatment on ovarian morphology, determined by 3D TVU in adult FtM	Polycystic ovarian morphology of 3D TVU and hormone levels	18
Chen et al. (2018) USA	Case series	n = 5	16.4 (14–18)		None	N/A	To report the feasibility of oocyte cryopreservation in FtM adolescents prior to initiating GAHT	Oocyte cryopreservation cycle results and parameters	
De Roo et al. (2017) Belgium	Prospective cohort study	n = 40	24.3 \pm 6.15	2013–2015	IM/oral/transdermal testosterone	58.18 weeks \pm 26.57 weeks	To investigate ovarian histology in FtM TAYAs and the possibility of ex-vivo harvesting of COC	Ovarian histology, oocyte in vitro maturation and spindle analysis	12
Grynberg et al. (2010) France	Retrospective cohort	n = 112	28.9 \pm 0.9 (21–53)	2000–2006	Androgen treatment (mode not specified)	3.7 \pm 0.6 years (2–9 years)	To describe the histological changes observed in the genital tract of FtM TAYAs	Ovarian, uterine and breast histology	12
Ikeda et al. (2013) Japan	Retrospective case control study	n = 11 (compared to 10 controls)	33.18 \pm 5.99 (26–42)	2007–2011	Testosterone IM	38 months (17 months–14 years)	To examine the effect of high doses of exogenous androgen treatment on ovarian morphology	Ovarian histology, physical and biochemical parameters	14
Lierman et al. (2017) Belgium	Prospective cohort study	n = 16	24.1 \pm 6.1		Testosterone (IM or transdermal gel)	53.6 \pm 21 weeks	To assess vitrification and thawing survival of IVM oocytes harvested from COCs at the time of SRS	Oocyte maturation, cryopreservation survival and spindle analysis	13
Loverro et al. (2016) Italy	Prospective cohort study	n = 12	28 \pm 6.58 (20–32)	2011–2013	Oral + IM testosterone	31.9 \pm 14.3 months	To determine histologic and steroid receptor changes in the ovary, endometrium and myometrium om MtF TAYAs at the time of SRS	Histologic analysis on the uterus and ovaries	13

(Continued)

Table V Description of studies examining FP medical aspects in FtM TAYAs.

Author (Year), Country	Study design	Sample size	Mean age \pm SD (range)	Study period	GAHT	Treatment median length (weeks/months \pm SD) + range	Objectives	Main outcomes	D&B score
Maxwell et al. (2017) USA	Case series	n = 3	17–32		None	N/A	To present 3 cases of FtM TAYAs who underwent oocyte cryopreservation prior to initiation of GAHT	Oocyte preservation cycle results and pregnancy outcomes	
Tack et al. (2016) Belgium	Retrospective analysis	N = 45	15.1	2010–2015	Progestin monotherapy for 6 months followed by Pro-gestin + testosterone IM	24 months (12.6 progestin alone + 11.4 P + T)	To analyze the impact of consecutive treatment with Progestin monotherapy and in combination with Testosterone on physical characteristics, safety, metabolic parameters and hormone levels in FtM TAYAs	Patient and treatment characteristics, treatment safety and hormone levels	15
Wallace et al. (2014) USA	Case report	n = 1	17		none	N/A	To report a case of oocyte cryopreservation for a FtM transgender	Oocyte preservation cycle results	

AMH: anti Müllerian hormone; COC: cumulus oocyte complex; PCOM: polycystic ovary morphology; TVU: transvaginal ultrasound; 3D TVU: 3-dimensional transvaginal ultrasound; D&B: Downs and Black (1998).

FP utilization

A total of 10 papers discussed FP utilization for TAYAs; however, the results of each paper differ in uptake rates ranging from 9.6% to 81.8% for MtF TAYAs, from 0% to 16.7% for FtM TAYAs and from 2.7% to 7% for both groups (Wierckx et al., 2012b; Jones et al., 2016; Armuand et al., 2017; Chen et al., 2017; Nahata et al., 2017; Auer et al., 2018; Kyweluk et al., 2018; Riggs and Bartholomaeus, 2018; Brik et al., 2019; Chiniara et al., 2019). FP utilization rates among transgender adolescents were reported in four studies, and all showed high discrepancy between FP counselling and FP uptake rates. A Canadian study found that none of 79 transgender adolescents chose to pursue FP despite all being counselled about the potential negative impact of GAHT on fertility (Chiniara et al., 2019). Of the 98.6% (72 out of 73) transgender adolescents who underwent a formal FP counselling in the Nahata et al. (2017) study, two MtF adolescents attempted sperm banking (2.7%) with one able to cryopreserve sperm successfully. Of the 13 in 105 TAYAs (12.4%) who received a formal FP consultation between 2013 and 2016 in the Chen et al. (2017) study, only 5 (4 MtF and 1 FtM) chose to undergo FP (4.8%), all before initiating GAHT. A recent study by Brik et al. (2019) on a Dutch adolescent cohort reported a relatively high FP consultation rate, with 32 out of 35 (91%) of MtF TAYAs receiving formal FP consultation and 12 (34%) attempting FP, 9 of which successfully cryopreserved sperm. Finally, Kyweluk et al. (2018) interviewed 18 TAYAs on their views on FP. The study found that the majority of MtF TAYAs (66.7%, 4 out of 6) completed sperm banking after receiving FP consultation, yet only 16.7% (2 out of 12) FtM TAYAs proceeded with oocyte cryopreservation.

Other available studies examining transgender adult groups also showed low FP uptake rates. In the Auer et al. (2018) study, 9.6% of MtF adults cryopreserved their sperm, and 3.1% of FtM adults cryopreserved their oocytes (age not reported). In the Riggs and Bartholomaeus (2018) study, 28 (53% MtF, 18% FtM and 29% non-binary/agender) out of 398 (7%) young adults underwent FP (mean age of 25.3 years). Of those individuals, 68% underwent FP prior to initiating GAHT.

Conversely, studies involving participants referred for FP consultation at fertility centers found higher FP utilization rates compared to other studies. Of the 15 FtM young adults who underwent oocyte cryopreservation in the Armuand et al. (2017) study, 7 (46.7%) FtM young adults initiated GAHT prior to undergoing FP, while 3 (20.0%) initiated GAHT after completing the process (ages 19–35 years). In the Jones et al. (2016) retrospective chart review study between 2010 and 2014 at an IVF clinic, 14 transgender patients (11 MtF, 3 FtM, mean age 28.5 years) received FP counselling, the majority of whom were first seen after initiating GAHT. Of the 11 MtF patients, 9 underwent sperm cryopreservation with an uptake rate of 81.8%. Of these nine patients, only one had so far used the cryopreserved sperm for fertility treatment that also led to a successful pregnancy. For various reasons, none of the three FtM patients underwent oocyte cryopreservation.

Attitudes/knowledge/beliefs of TAYAs

Five papers discussed the attitudes, knowledge and beliefs of TAYAs regarding FP (De Sutter et al., 2002; Wierckx et al., 2012b; Johnson et al., 2016; Kyweluk et al., 2018; Riggs and Bartholomaeus 2018). The studies found that some TAYAs did not pursue FP due to the lack of

awareness of their FP options. Of the TAYAs who did not undertake FP in the Riggs and Bartholomaeus (2018) study, over two-thirds (68%) indicated they were not informed by HCPs about their options to preserve fertility, and 317 out of 335 (94.6%) of participants were affirmative that FP should be offered routinely to all TAYAs.

Similarly, 77.1% of FtM TAYAs had not considered oocyte cryopreservation due to the lack of awareness of this as an option during GAHT, and 37.5% stated that they would have considered freezing their oocytes if this option was available to them prior to commencing GAHT (Wierckx et al., 2012b). If sperm cryopreservation had been offered to MtF participants in the De Sutter et al. (2002) study, 51% indicated that they would have seriously thought about this FP option. This study also found a correlation between age and FP attitudes; over two-thirds (67%) of participants below age 40 years would have chosen sperm cryopreservation, compared to just over one-third (35%) of participants over age 40 years (De Sutter et al., 2002). In a provider needs assessment survey, both a fertility questionnaire and a decision aid tool were recommended as methods to improve TAYAs' knowledge regarding fertility issues concerning transgender individuals and available FP options (Johnson et al., 2016).

Attitudes/knowledge/beliefs of HCPs

Seven papers discussed the attitudes, knowledge and beliefs of HCPs regarding FP for TAYAs (James-Abra et al., 2015; von Doussa et al., 2015; Armuand et al., 2017; Payne and Erbenius, 2018; Bartholomaeus and Riggs, 2019; Chen et al., 2019; Tishelman et al., 2019). Overall, TAYAs found that HCPs appeared to lack knowledge and expertise on managing the fertility needs of transgender people. Accordingly, they felt the need to educate themselves about transgender-related health services and fertility matters (James-Abra et al., 2015). Some HCPs made incorrect assumptions when working with TAYAs, such as utilizing the incorrect name, pronoun or gender (James-Abra et al., 2015; Armuand et al., 2017; Chen et al., 2017). Other HCPs failed to acknowledge the individuals' gender identities by perceiving them through a cis-normative lens (James-Abra et al., 2015). Some HCPs failed to initiate a discussion on the reproductive risks of medically transitioning, and most did not discuss FP options or make FP referrals (James-Abra et al., 2015; von Doussa et al., 2015). Some patients had feelings of regret, upon reflection, of feeling that HCPs rushed them into undergoing medical transition procedures without considering their reproductive and FP needs (von Doussa et al., 2015). In addition to lacking FP knowledge for TAYAs, it was reported that some HCPs treated transgender patients with disrespect and discrimination. This included participants being denied access to FP information and services by fertility clinic staff after disclosing their transgender identities (James-Abra et al., 2015).

Of those participants who had positive experiences with HCPs, many had attended 'transgender-friendly' clinics and benefited from environments where HCPs used gender-neutral terminology and were educated about transgender-related health services (James-Abra et al., 2015). Latest data on HCPs' fertility-related knowledge found that 94.6% (191 out of 202) of HCPs agreed with WPATH's recommendation of FP discussion and referral prior to commencing GAHT, and 91% (183 out of 202) 'always' or 'often' discussed the negative impact of GAHT on future fertility with TAYAs (Chen et al., 2019). Positive attitudinal shift to the provision of transgender reproductive care in fertility

clinics was noted when HCPs made efforts to un-learn cis-normative ways of thinking about family building (Payne and Erbenius, 2018).

Attitudes/knowledge/beliefs of the parents/guardians of TAYAs

Two papers discussed the attitudes, knowledge and beliefs of the parents/guardians of TAYAs regarding FP (Strang et al., 2018; Chiniara et al., 2019). In a transgender youth fertility attitudes questionnaire pilot trial (Strang et al., 2018), nearly all parents (25 out of 26) emphasized the importance of educating TAYAs on the fertility risks associated with GAHT. All but one parent stated that they would be angry if HCPs neglected to tell them that GAHT might impact their child's reproductive potential. Approximately 65% of parents indicated a wish that their child would have children at some point in their life. However, only 20.8% of parents stated that they would be disappointed if their child could not have biological children. Also, 52% of parents desired discussions about their child's FP options. While 54.2% of parents expressed a wish that their child would at least consider FP, only 29.1% desired that their child would undergo FP (Strang et al., 2018).

Barriers to accessing FP

A total of 11 papers discussed the barriers to accessing FP, with 7 papers discussing the barriers for both MtF and FtM TAYAs (James-Abra et al., 2015; von Doussa et al., 2015; Jones et al., 2016; Chen et al., 2017; Nahata et al., 2017; Kyweluk et al., 2018; Riggs and Bartholomaeus, 2018), 2 papers discussing the barriers specifically for MtF TAYAs (De Sutter et al., 2002; Brik et al., 2019) and 2 other papers discussing the barriers specifically for FtM TAYAs (Wierckx et al., 2012b; Armuand et al., 2017). While these barriers often differed based on the transitioning gender, both groups were negatively impacted by HCPs' poor attitudes and inadequate knowledge of transgender reproductive care, with a variety of negative experiences being encountered by TAYAs. Many TAYAs never received FP counselling or written documents, thus preventing them from pursuing FP (James-Abra et al., 2015; von Doussa et al., 2015; Riggs and Bartholomaeus, 2018). Some TAYAs reported that their HCPs discriminated against them by denying them access to FP information and services (James-Abra et al., 2015), mis-gendering them, treating them disrespectfully (Chen et al., 2017) and assuming that TAYAs were not interested in biological parenthood (von Doussa et al., 2015).

Another major barrier for both MtF and FtM TAYAs was the concern of stopping or delaying the start of GAHT for FP when they already found it stressful to cope with gender dysphoria (Nahata et al., 2017; Chiniara et al., 2019). Prior to undergoing FP, individuals who have started GAHT must discontinue treatment for several months to allow sperm production or ovulation to resume. For FtM TAYAs specifically, they must discontinue GAHT until menstruation resumes (Armuand et al., 2017). Of those who undertook FP in the Riggs and Bartholomaeus (2018) study, the majority (57.7%) had purposely delayed their GAHT to allow time for FP. For some TAYAs, the urgency to proceed with GAHT overrode the desire to pursue FP (Nahata et al., 2017).

For MtF TAYAs, less FP counselling was needed compared to FtM, and they were usually briefly informed of the sperm cryopreservation process to determine whether the procedure was the right decision for them. The main barrier for MtF TAYAs to FP was the psychological

inability to masturbate to produce a semen sample for freezing (De Sutter *et al.*, 2002; Nahata *et al.*, 2017). Many MtF TAYAs who already had difficulties masturbating due to their gender dysphoria found it even more difficult to masturbate in a medical setting. Some chose not to undergo FP because the mental burden of masturbating to produce a sperm sample was too great (De Sutter *et al.*, 2002; Brik *et al.*, 2019). Some MtF TAYAs could not utilize the FP service because the fees associated with sperm banking, and long-term storage was beyond their financial reach (Nahata *et al.*, 2017; Kyweluk *et al.*, 2018).

For FtM TAYAs, FP consultation provided by a fertility specialist was required for informed decisions regarding the medical procedures involved in oocyte cryopreservation; this included a detailed discussion about the time estimated to complete the process, the costs associated with the procedure, the medications utilized for ovarian stimulation, a description of the oocyte retrieval process and information about cryopreservation and storage (Jones *et al.*, 2016). Some FtM TAYAs indicated that the referral wait time to a fertility center was long and stressful (Armuaud *et al.*, 2017). Since oocyte cryopreservation is expensive, cost was a significant barrier for FtM TAYAs wanting to preserve oocytes but who were unable to afford it (Jones *et al.*, 2016; Chen *et al.*, 2017). Some declined FP referrals knowing that the FP process was financially prohibitive to them despite their future parenthood desire (Nahata *et al.*, 2017; Kyweluk *et al.*, 2018; Riggs and Bartholomaeus, 2018). The process to cryopreserve oocytes includes invasiveness and risks associated with the oocyte retrieval process and the psychological stress of undergoing transvaginal ultrasound monitoring, all of which could further intensify gender dysphoria (Jones *et al.*, 2016; Chen *et al.*, 2017).

MtF TAYAs—related fertility concerns and effect of GAHT on fertility

Nine papers evaluated fertility-related aspects among MtF TAYAs and the effects of MtF GAHT on fertility (Table IV): four evaluated semen parameters (Hamada *et al.*, 2015; Jones *et al.*, 2016; Li *et al.*, 2018; Adeleye *et al.*, 2019) and five evaluated the effect on testicular histology and/or spermatogenesis (Schneider *et al.*, 2015; Leavy *et al.*, 2017; Jindarak *et al.*, 2018; Kent *et al.*, 2018; Matoso *et al.*, 2018).

GAHT effects on semen parameters

A single retrospective study evaluated semen parameters in the presence (past and current) or absence of GAHT (Adeleye *et al.*, 2019) in 69 samples produced by 28 patients. They found significantly reduced semen parameters among those with current GAHT, compared to both past and no treatment. Discontinuation of GAHT prior to semen cryopreservation was associated with improved parameters, although a trend towards diminished semen parameters remained. The small number of past and current GAHT users in this study ($n = 8$) makes it difficult to draw firm conclusions. One case series presented outcomes of nine MtF TAYAs, with a mean age of 26.4 years, who cryopreserved a median of two sperm samples, most performed 2 weeks apart. Of the 11, 6 had their GAHT duration recorded, and of these, the mean duration was 0.33 months. Median semen parameters for this cohort were within the normal reference range for the first sample, but the parameters were lower for the second sample (Jones *et al.*, 2016).

Two studies that evaluated semen parameters in MtF TAYAs with no prior GAHT both found an increased incidence of semen abnormalities (Hamada *et al.*, 2015; Li *et al.*, 2018). Hamada *et al.* (2015) evaluated

semen parameters in 29 MtF TAYAs, revealing a high proportion of abnormalities such as oligospermia, teratospermia and asthenospermia. The total motile count was abnormal in almost 75% of this cohort. Li *et al.* (2018) compared semen parameters of cryopreserved sperm from healthy cisgender and healthy MtF TAYAs. Although the transgender population in this study was younger than its cisgender counterparts and none received GAHT, they found the MtF TAYA group to have poorer semen quality for most semen parameters, particularly a higher proportion of oligospermia, and MtF TAYAs' sperm to be more cryosensitive.

GAHT effects on testicular morphology and spermatogenesis

Five studies (Jindarak *et al.*, 2018; Kent *et al.*, 2018; Leavy *et al.*, 2017; Matoso *et al.*, 2018; Schneider *et al.*, 2015) evaluated the effects of GAHT on testicular histology and spermatogenesis, with diverse results. Median duration of GAHT in these studies ranged between 6 months and 8.5 years. GAHT consisted of either estrogen treatment alone or in combination with an anti-androgen or GnRH analogue. Schneider *et al.* (2015) evaluated serum hormone levels and testicular histology in 108 MtF TAYAs undergoing SRS. Prior to SRS, all patients received a combination of anti-androgens and estrogen or estrogen alone. Based on each clinic's usual practice, treatment was discontinued either 2 weeks or 6 weeks before SRS or not at all. Found to have normal spermatogenesis were 24% of histologic specimens, with the remainder revealing different degrees of impairment: 24% meiotic arrest, 35% spermatogonial arrest, 14.8% Sertoli cell only and 1.8% tubular shadows. Ongoing GAHT-induced feminized hormone blood levels as opposed to a virilized profile when GAHT is discontinued, yet no correlation between spermatogenesis and treatment protocol was observed (Merklinghaus *et al.*, 2015; Schneider *et al.*, 2015).

Three more recent studies found a much lower incidence of normal spermatogenesis among the samples, ranging between 0% and 11% normal (Jindarak *et al.*, 2018; Kent *et al.*, 2018; Matoso *et al.*, 2018). The most common abnormality in all studies was maturation arrest ranging between 35% and 100%. Jindarak *et al.* (2018) examined samples from 173 MtF TAYAs undergoing SRS and found that in this cohort the proportion of normal spermatogenesis was 11%, with the rest being maturation arrest (36.4%), hypospermatogenesis (26%), Sertoli cell only (20.2%) and seminiferous hyalinization (6.4%). Kent *et al.* (2018) evaluated a cohort of 135 MtF TAYAs in which 79% had no evidence of spermatogenesis, 21% had some degree of spermatogenesis and only 4% had normal spermatogenesis. Similarly, the pathology in most of those with impaired spermatogenesis was maturation arrest. They also found a trend (not statistically significant) towards poorer spermatogenesis with longer duration of therapy. Matoso *et al.* (2018) evaluated samples from 50 MtF TAYAs and found abnormal spermatogenesis in all samples, with maturation arrest at either the spermatogonia (80%) or primary spermatocyte stage (20%).

Two of the studies also evaluated signs of malignancy, with no specimens showing malignant or premalignant changes (Kent *et al.*, 2018; Matoso *et al.*, 2018). Two of the studies (Leavy *et al.*, 2017; Matoso *et al.*, 2018) described other gross and histologic changes within orchiectomy samples from SRS, mainly changes in size and weight, decreased seminiferous tubule diameter, Sertoli and Leydig cell number and appearance and presence of vacuoles and fibrosis. Leavy *et al.* (2017) further investigated prolonged estrogen therapy effects on the functional morphology of the testis and found it exerts both

inhibiting and stimulatory effects depending on the testicular cell type. Their findings suggest that a combination of either estrogen and GnRH analogue or estrogen and anti-androgens inhibit spermatogenesis to a higher degree than estrogen alone. Of note in this study, one of the specimens treated for an extensive time period resulted in spermatocytes, spermatids and even spermatozoa being present in the tubules, suggesting the possibility of drug resistance.

FP outcomes in MtF TAYAs

Our search did not yield any large-scale studies regarding usage rates of cryopreserved sperm, live birth rates or pregnancy outcomes specific to the transgender population. Two case reports (Jones et al., 2016; Broughton and Omurtag, 2017) outline the feasibility of the process. One presented nine MtF TAYAs with a mean age of 26.4 years who cryopreserved sperm obtained from fresh ejaculate after masturbation. The median number of banking events per patient was two. The mean number of straws frozen was 27.1. Only one of the nine had used their cryopreserved sperm for IVF-ICSI followed by frozen embryo transfer, resulting in a viable pregnancy (Jones et al., 2016). The second case report presented three cases of individuals who utilized their cryopreserved gametes, one of which obtained an FP consult and cryopreserved four sperm samples prior to initiating GAHT at the age of 25 years. Samples were later used with her cisgender partner for IUIs, and later a cycle of IVF-ICSI, though all attempts were unsuccessful. Semen parameters in this case were reported as normal (Broughton and Omurtag, 2017). No studies on the use of surgical sperm retrieval (SSR) or TTC among MtF TAYAs were identified.

FtM TAYA related fertility concerns and effect of GAHT on fertility

Eight studies evaluated the effects of GAHT on fertility hormone levels, ovarian morphology and histology, as well as oocytes, with conflicting results (Grynberg et al., 2010; Ikeda et al., 2013; Caanen et al., 2015; Loverro et al., 2016; Tack et al., 2016; Caanen et al., 2017; De Roo et al., 2017; Lierman et al., 2017) (Table V).

GAHT effect on hormone levels and ultrasound appearance

Two studies measured and reported conflicting anti-müllerian hormone (AMH) levels: one reported a decrease in AMH level (Caanen et al., 2015) in FtM TAYAs receiving GAHT, while the other reported no change (Tack et al., 2016). Caanen et al. (2015) evaluated various hormone levels after 8 weeks of GnRH analogue treatment (considered the first sample) and again after 16 weeks of androgenic treatment. They found significant reductions in AMH and sex hormone-binding globulin, significant increases in total testosterone, androstenedione and FSH levels, and stable levels of inhibin B, LH and estradiol. Tack et al. (2016) evaluated 45 FtM TAYAs who had received GAHT for over 6 months (Progestin followed by Progestin plus testosterone, mean duration 12.6 months and 11.4 months, respectively) with no changes found in AMH level and suppression of both FSH and LH.

One study evaluated sonographic ovarian changes in FtM TAYAs taking GAHT (testosterone with or without GnRH analogue) for a median duration of 29.5 months, compared to a group of cisgender controls. The prevalence of polycystic ovary morphology based on 3-dimensional ultrasound did not differ between the FtM TAYAs and the control group, nor was there a difference within the TAYA group

between those who received GnRH analogue and those who did not (Caanen et al., 2017).

GAHT effects on ovarian histology

Four studies evaluated the effect of GAHT on ovarian histology. Median length of GAHT in these studies ranges between 58 weeks to 3.7 years (Grynberg et al., 2010; Ikeda et al., 2013; Loverro et al., 2016; De Roo et al., 2017). In two papers (n = 124) the majority of ovarian specimens' gross morphology and histology (79–82%) resembled that of polycystic ovary syndrome (PCOS) (Grynberg et al., 2010; Loverro et al., 2016). Two of the studies also evaluated endometrial histology. In one, the majority of samples exhibited proliferative endometrium (10/12) (Loverro et al., 2016) and in the other study there were two distinct patterns: proliferative (54/112) and atrophic (50/112) (Grynberg et al., 2010). Other studies evaluating ovarian histology revealed normal follicular distribution compared with controls (Ikeda et al., 2013; De Roo et al., 2017). One of the studies found a higher proportion of atretic follicles within the FtM TAYA group compared with age and BMI-matched controls (Ikeda et al., 2013). Among the histologic changes described within FtM TAYAs' ovaries were a thicker ovarian cortex, more hyperplastic collagen, ovarian stromal hyperplasia and stromal luteinization. No correlation was observed between hormone levels and follicle number or GAHT duration (De Roo et al., 2017).

IVM in FtM TAYAs

Two studies (De Roo et al., 2017; Lierman et al., 2017) evaluated the option of IVM of oocytes from cumulus-oocyte complexes (COCs) retrieved from MtF TAYAs' ovaries at the time of SRS. De Roo et al. (2017) studied 40 transgender males with mean age of 24.3 years and mean androgen exposure of 58 weeks. The mean number of COCs obtained was 37.51 per person (median 27 per person). COC number correlated positively with AMH level, but no other hormone levels. Of the 1313 COCs collected, 34% matured via IVM, 94% of which showed a normal appearing spindle as a marker of oocyte functionality. Similarly, Lierman et al. (2017) collected 680 COCs at the time of SRS of 16 FtM TAYAs, and 38% of oocytes matured via IVM: the mean age of this group was 24.1 years and mean duration of GAHT was just over 1 year (53.6 weeks). Lierman et al. (2017) further analyzed IVM oocyte survival post-vitrification by dividing the oocytes into two groups: one was fixed immediately and the other vitrified and thawed before fixation. There was a 68% survival rate with 87% and 92% normal appearing spindles in the fresh and vitrified groups, respectively. Of note, the median duration of GAHT in both of these studies was relatively short.

Our search did not yield studies that evaluated the reversibility of GAHT effects on ovarian tissue or oocyte yield upon treatment cessation or studies evaluating the effect of different regimens and longer duration of GAHT.

FP outcomes in FtM TAYAs

There are no large-scale reports of FP outcomes among FtM TAYAs. Four reports presented data about FtM TAYAs pursuing FP before or after initiating GAHT (Wallace et al., 2014; Broughton and Omurtag, 2017; Maxwell et al., 2017; Chen et al., 2018). One is a case series detailing one adolescent and two adults (ages 17–32 years) who pursued oocyte cryopreservation prior to initiating GAHT, with the number of cryopreserved mature oocytes ranging between 13 and 45. In two of the cases, patients returned to use their cryopreserved

oocytes (after 5–8 years) with their cisgender partner and donor sperm. Both resulted in delivery of healthy twins (Maxwell et al., 2017). Another case report described cryopreservation of 35 mature oocytes in a 17-year-old FtM TAYA (Wallace et al., 2014). In both papers, ovarian stimulation was achieved by either antagonist or low dose agonist protocols.

Chen et al. (2018) published a small series of five cases of oocyte preservation among FtM youth (ages 14–18 years) before initiating GAHT. All five completed ovarian stimulation and oocyte retrieval and cryopreservation without serious adverse side effects or complications. The mean number of oocytes retrieved was 18.2 (range 11–28), of which 14.2 (8–25) were mature and were cryopreserved.

One paper reported on individuals who had already initiated GAHT. Broughton and Omurtag (2017) presented two cases of use of IVF in FtM TAYAs. The first was a 30-year old FtM who initiated testosterone treatment 26 months earlier. He was urged to stop treatment for 3 months before attempting IVF, followed by 2-week down regulation with oral contraceptives. After ovarian stimulation, 13 mature oocytes were retrieved and fertilized with donor sperm. Two blastocysts transferred to his partner's uterus resulted in pregnancy and one additional blastocyst was cryopreserved. The second was a case of a 32-year old gender non-binary patient and female partner. Both underwent ovarian stimulation and oocyte retrieval, and fertilization with donor sperm. The cycle yielded 16 oocytes, nine fertilizations, and five blastocysts were cryopreserved. Later in a frozen cycle, two blastocysts, one from each partner, were transferred into the cisgender partner's uterus resulting in a twin pregnancy. In this case, GAHT has yet to be initiated prior to IVF.

No publications were identified that discussed OTC for the transgender population.

Discussion

To our knowledge this is the first published systematic review synthesizing the current state of knowledge on FP for TAYAs. We analyzed the data from all relevant papers that explored the attitudes, knowledge and beliefs of TAYAs, their parents/guardians and HCPs regarding FP for TAYAs, as well as major barriers preventing TAYAs from utilizing an FP service. We also systematically analyzed all the relevant papers that explored GAHT utilization and reproductive effects and outcomes of FP in TAYAs from the medical perspective in order to assist HCPs in providing FP counselling for TAYAs.

Other than one paper (De Sutter et al., 2002), all papers included in this study were published between 2010 and 2018, suggesting that this is an emerging field of research. Prior to this past decade, FP services for TAYAs, particularly for FtM TAYAs, were not easily accessible. Oocyte cryopreservation was deemed an experimental procedure by the ASRM until 2012, though this is no longer the case due to recent advances in oocyte freezing technology, namely the introduction of the vitrification technique (Practice Committees of the ASRM and SART, 2013b; Practice Committees of the ASRM and SART, 2014). With regard to psychosocial aspects of FP among TAYAs, the reported sample sizes were very small, with 16 of the 30 papers having sample sizes under 20. The small sample sizes are problematic, potentially undermining the reliability of the source and inaccurately characterizing the population of TAYAs. The paucity of published research studies, the fact that all but one of the papers was published within the last

decade and the very small sample sizes all suggest the need for continued research on this topic. Furthermore, quality assessment of the included papers reveals poor to fair quality, mostly linked to the studies' methodologies, such as lack of a control group and small sample sizes, again supporting the need for better quality research in this field.

Barriers to accessing FP service

The literature makes it evident that many TAYAs wish to have children at some point in their lives (De Sutter et al., 2002; Wierckx et al., 2012b; Auer et al., 2018; Strang et al., 2018). It is essential for HCPs to begin FP counselling and discussions prior to the initiation of GAHT. Many TAYAs agreed that their desire to have biological children may change in the future (Strang et al., 2018). FP counselling and discussions are a vital way for TAYAs to learn about their reproductive options for future parenthood. Although some research suggests that the rates of TAYAs who receive FP counselling and subsequent referrals to a fertility specialist have increased over time (Armuan et al., 2017), no overall chronological trends were uncovered based on this review. Also, no trends were observed in the different countries represented by the studies. As expected, the rates of FP counselling and referrals were highest among studies conducted in dedicated hospital-based pediatric gender clinics.

We believe FP counselling should be the standard of care for all TAYAs considering utilizing GAHT and/or considering undergoing SRS. Unfortunately, in most of the papers that discussed FP counselling, FP discussions rarely occurred (Wierckx et al., 2012a; James-Abra et al., 2015; Armuan et al., 2017; Chen et al., 2017; Nahata et al., 2017; Riggs and Bartholomaeus, 2018), resulting in many TAYAs lacking awareness of the reproductive risks of GAHT and of their FP options. Several TAYAs stated that if they had been aware of their fertility options, they would have seriously considered undergoing FP (Wierckx et al., 2012b). Some individuals even regretted undergoing medical transitioning without first being aware of their FP options (von Doussa et al., 2015).

This review demonstrates the limited knowledge that HCPs have about FP for TAYAs. In order for TAYAs to have better access to FP information, HCPs must be more knowledgeable on the reproductive needs of these individuals in order to educate them. Since the language of transgender identity is constantly evolving, it is imperative for HCPs to stay up-to-date with the latest vocabulary for respectful communication. It cannot be stressed enough that all HCPs should be more sensitive toward TAYAs, treating them with respect by using the correct names, genders and pronouns to establish a transgender-friendly clinical environment.

More research is needed to better understand the attitudes of the parents/guardians of TAYAs toward FP. Although two articles mentioned the attitudes of the parents/guardians, only one pilot trial article thoroughly examined their opinions and beliefs (Strang et al., 2018). Studies found that parents/guardians who supported their child's decision to transition were more involved in the FP process when the child was a minor, including accompanying the minor to counselling sessions and FP procedure appointments (Chen et al., 2017; Maxwell et al., 2017) while conflicts can arise when a child's and their parents'/guardians' wishes for FP are in dissent. As many TAYAs are minors when they begin the transition process, parents/guardians are often very involved in the process, which points to the need for

more studies to understand the parents'/guardians' impact on the FP decision-making process.

While some barriers preventing TAYAs from pursuing FP are difficult to eliminate, such as the invasiveness of the oocyte retrieval process, others can be mitigated. For instance, as many TAYAs choose not to pursue FP due to the need to discontinue GAHT, it is important that knowledge translation and decisions regarding FP procedures take place prior to the initiation of GAHT. By pursuing FP before commencing the medical transition process, TAYAs avoid the burden of interrupting GAHT to allow sperm production or ovulation to resume. Some individuals are concerned with the affordability of the FP process so HCPs should be aware of any funding assistance that is available through insurers, government, or charities, and be able to relay this information to their patients. Furthermore, for MtF TAYAs who have concern about masturbation to produce a semen sample, HCPs should offer alternative approaches, such as electroejaculation or sperm extraction procedures.

Reproductive effects of GAHT in MtF TAYAs

This review brings to light the paucity of data available in the literature on the reproductive effects of GAHT and outcomes of FP in this population. Current recommendations from professional medical associations recommend that FP counselling take place before commencing any GAHT (Coleman et al., 2012; Ethics Committee of the ASRM, 2015; Hembree et al., 2017) and support medical therapy initiation soon after diagnosis is established, as early as Tanner stage II (gender affirming medical management in adolescents consists of puberty suppression by a GnRH agonist, Cyproterone acetate or Spironolactone, followed by cross-gender hormonal therapy to induce puberty at age 16 years). This paradigm, while assisting to alleviate gender dysphoria symptoms and improve mental health and general well-being (Gorin-Lazard et al., 2013), creates a dilemma for the reproductive HCPs, as there are currently few high-quality data to rely upon when counselling transgenders and their guardians about the extent and reversibility of fertility risks by GAHT. The methods available for FP in young adolescents are restricted and depend on the individual's sexual development.

Most available data point to some degree towards an effect of GAHT on both testis and ovaries, yet the extent and reversibility of that effect and the lag time needed from cessation of treatment to recovery has not yet been thoroughly explored. In MtF TAYAs, only a single study (with a small sample size) evaluated semen parameters with past, current and no prior GAHT. Discontinuation of GAHT prior to semen cryopreservation was associated with improved parameters, though a trend towards worsening semen parameters remained (Adeleye et al., 2019). Some studies reported an increased incidence of semen abnormalities among MtF TAYAs who have not yet started GAHT (Hamada et al., 2015; Li et al., 2018). The etiology of this observation is unknown yet could potentially be explained by the effect of psychological stress (Eskioçak et al., 2006; Nargund, 2015), increased heat (due to tight undergarments and high positioning of the testes) (Li et al., 2013; Rao et al., 2015), undisclosed GAHT or genetic polymorphism.

Studies on the effect of GAHT on testicular histology and spermatogenesis, including small older observational studies, reviewed by Schneider et al. (2017), yield highly variable results, from normal spermatogenesis to complete azoospermia. While some found normal spermatogenesis in almost a quarter of the samples (Schneider et al.,

2015), most reported much lower proportions (Jindarak et al., 2018; Kent et al., 2018; Matoso et al., 2018). These variations may represent individual sensitivity to treatment regimens or variations in treatment regimen and duration. One study revealed a trend, albeit not statistically significant, towards poorer spermatogenesis with longer duration of therapy (Kent et al., 2018). In another study, in which GAHT was discontinued for a variable period of time before SRS, no correlation between spermatogenesis and treatment protocol was observed (Schneider et al., 2015). One study even found that longer duration of GAHT was associated with an increased likelihood of resumption of spermatogenesis (Leavy et al., 2017). The authors proposed decreased responsiveness of androgen receptors or increased elimination of exogenous hormones as possible explanations for this phenomenon. Due to the small sample size and heterogeneity of the studies, no conclusions can be drawn regarding dose, regimen and treatment duration effects or the nature of the specimens acquired at the time of SRS. No study evaluated the reversibility of GAHT's reproductive effects.

FP options and outcomes for MtF

These results do support the consensus of many organizations that FP should be discussed, and carried out if desired, prior to commencement of GAHT. However, if treatment is started at an early age, the modes by which to do so are few. Semen cryopreservation of specimens obtained by masturbation is an established method of FP for post-pubertal individuals and has been used for decades. It is easy, reliable and relatively inexpensive. However, some transgender individuals find masturbation psychologically distressing or experience erectile and ejaculatory dysfunction as a result of GAHT (Hamada et al., 2015). For those individuals, electro-stimulation or penile vibratory stimulation may be appropriate but may not be readily available (Sonksen and Ohl, 2002; Kafetsoulis et al., 2006). SSR, although more invasive and costly, is an option when ejaculation is not, or in cases of severe oligospermia or azoospermia. For young pre-pubertal transgenders, the only feasible option is TTC, which is still considered experimental and has not yet been proven successful in humans. When counselling about TTC, both the patient and guardian need to be aware that it is relying on the emerging technologies of tissue reimplantation or SSC *in vitro* expansion or SSC IVM (Picton et al., 2015; Gassei and Orwig, 2016).

To date, there are only case reports or small case series on the use of cryopreserved sperm and outcomes of such pregnancies in TAYAs (Broughton and Omurtag 2017; Jones et al., 2016). Usage of cryopreserved sperm in MtF TAYAs requires the use of either a partner's or a surrogate's uterus. Although uterine transplantation has emerged as a viable option, it is still considered experimental (Practice Committee of the ASRM, 2018), and there are several anatomical, hormonal, fertility and obstetric considerations that require consideration for this option in TAYAs (Brannstrom et al., 2015; Testa et al., 2018; Ejzenberg et al., 2019; Jones et al., 2019). There are currently no studies comparing or reporting outcomes from different methods of sperm collection in transgenders. There are also no studies comparing outcomes, with and without cessation of GAHT, in those who have already started treatment to guide HCPs as to whether they should recommend stopping treatment prior to collection or not and, if so, for how long.

The effect of GAHT on ovaries is controversial. Older observational studies on testosterone effect on ovarian histology reported mainly an

ovarian histology resembling that of PCOS (Futterweit and Deligdisch, 1986; Spinder *et al.*, 1989; Pache *et al.*, 1991). Recent studies, including those in the current review, yield more conflicting results; some still report a phenotype similar to PCOS (Grynberg *et al.*, 2010; Loverro *et al.*, 2016), and others report normal follicular count (Ikeda *et al.*, 2013; Caanen *et al.*, 2017; De Roo *et al.*, 2017). One paper reported no correlation between duration of GAHT and follicle count, but the mean duration of testosterone treatment was relatively short (58 weeks) (De Roo *et al.*, 2017).

There are currently no studies to guide clinicians when counselling FtM TAYAs who have already started GAHT about whether testosterone treatment should be discontinued prior to treatment and for how long. In the only published case report (Broughton and Omurtag, 2017), the authors elected to stop testosterone treatment for a period of 3 months, basing their decision on data pertaining to other medications with teratogenic effects, such as Methotrexate. They also elected to use ICSI for fertilization due to the possible effect of testosterone on the oocytes; however, there are little data to support this, and spontaneous pregnancies while on testosterone treatment do occur (Light *et al.*, 2014; Obedin-Maliver and Makadon, 2016; Light *et al.*, 2018). In a cross-sectional survey evaluating the experiences of 41 FtMs with respect to pregnancy and fertility, 61% of respondents reported taking GAHT prior to pregnancy, 68% discontinued treatment in order to achieve pregnancy, 80% regained menses within 6 months and 20% conceived while still amenorrheic from testosterone treatment (Light *et al.*, 2014). The possible teratogenic effect of testosterone highlights the importance of consulting transgenders about contraception while taking GAHT until pregnancy is desired.

FP options and outcomes for FtM

The FP process itself may be challenging for FtM TAYAs. The process of ovarian stimulation and oocyte retrieval is both invasive and costly (Inhorn *et al.*, 2018). With advances in oocyte cryopreservation and live birth rates approaching those of fresh oocytes (Cobo *et al.*, 2008a,b, 2013, 2017), oocyte cryopreservation is the leading option for FtM TAYA in place of embryo cryopreservation, which requires the use of either a partner's or donor's sperm. Transgenders undergoing oocyte cryopreservation may find the process distressing as it involves the need to temporarily stop GAHT before commencing the process and increases estrogen levels due to ovarian stimulation, which may aggravate gender dysphoria symptoms (Armund *et al.*, 2017). In addition, treatment is most often taking place in a setting that is predominantly female patient oriented and involves the need to undergo serial transvaginal ultrasound examinations (Belaisch-Allart *et al.* 1991; Wittmaack *et al.* 1994; Rosen *et al.*, 2008). Among the options to alleviate some of the distressful parameters of the process is the use of transabdominal ultrasound and aromatase inhibitors to minimize estradiol levels during ovarian stimulation. Studies on breast cancer patients attempting FP have consistently proven this method's effectiveness without compromising outcomes (Oktay *et al.*, 2015).

For younger transgenders and when ovarian stimulation is not acceptable, OTC is the only option. Data from other populations, mainly FP related to malignancy and conditions predisposing to primary ovarian insufficiency, is promising, and there are reports of live births from cryopreserved ovarian tissue of individuals who were pre-

pubertal or peri-pubertal at the time of the procedure (Donnez, 2015; Demeestere, 2015; Jensen *et al.*, 2017a; Jensen *et al.*, 2017b; Javed *et al.*, 2018; Donnez and Dolmans 2018). OTC is very appealing to transgenders since it does not require ovarian stimulation and can potentially be carried out at the time of SRS, though not all institutions have an established protocol. OTC most often involves re-transplantation of the cryopreserved tissue into the individual from which it was harvested, which is less than ideal for transgenders as it involves cessation of GAHT with accompanying gender dysphoria symptoms and the possible need for future ovarian tissue removal upon completion of their family.

Two papers report outcomes of IVM of oocytes collected from ovaries exposed to GAHT at the time of SRS (De Roo *et al.*, 2017; Lierman *et al.*, 2017). In both these studies, the number of COCs retrieved was higher than reported previously for other indications (Segers *et al.*, 2015; Ye, 2016). This is mainly because both ovaries are procured and prepared, and gonadotrophin is downregulated by androgen treatment. The number of COCs retrieved also correlates with age and AMH level (Yin *et al.*, 2016). Maturation and survival rates were comparable to those published in the literature (Shalom-Paz *et al.*, 2010; Abir *et al.*, 2016; Fasano *et al.*, 2017). These results seem very promising, albeit the option is not yet clinically available (Fasano *et al.*, 2017). One also needs to keep in mind the median testosterone treatment duration in both studies was relatively short (53–58 weeks), and the effect of longer treatment duration has still to be thoroughly investigated. Also, oocyte potency in these studies was evaluated by the oocytes' spindle appearance (Mandelbaum *et al.*, 2004; Coticchio *et al.*, 2009); however, fertilization, embryo yield and quality have yet to be explored. Previous studies on utilization of IVM oocytes show that these oocytes yield lower pregnancy rates and higher pregnancy loss rates (Practice Committee of the ASRM, 2013; Kedem *et al.*, 2018).

Limitations

Owing to the nature of this review and topic, we did not limit our search to specific study types in order to include all the relevant literature. We did decide to limit our search to papers published after 2001. However, since FP in general and FP in TAYAs are a relatively recent practice, we believe this did not exclude papers of high importance. It is also worth noting that relevant publications do exist, mainly on the effect of GAHT on histology, and were explored by the authors after snowballing through the references of included papers and relevant reviews. The search was also limited to publications in English.

Conclusion

Upon synthesizing the current body of research literature, it is evident that FP for TAYAs is not yet a standard practice and there are many barriers preventing TAYAs from pursuing FP. Contributing factors include the absence of FP discussion and counselling initiated by HCPs, often due to lack of knowledge. FP counselling for TAYAs is far from straightforward because there is little data in the literature about the reproductive effects of GAHT. As a result, most TAYAs lack awareness of the following: FP options; costs, including those that may be off-set by various programs; invasiveness of the procedures and the potential psychological impact of going through the process. The literature suggests that FP counselling should begin as early as possible prior to undergoing GAHT, allowing time for informed decisions to

be made. FP counselling and support services should be the standard of care. Research should continue in this area to rectify the current issue with a lack of high-quality medical data that results in current FP practice relying primarily on expert opinion and extrapolation from cisgender population studies. Future research should also include the following: large-scale cohort studies, preferably multi-centered; longitudinal studies of TAYAs throughout the entire FP process; qualitative studies of the parents/guardians of TAYAs; and psychosocial studies evaluating the effectiveness of different strategies to improve the attitudes, knowledge and beliefs of HCPs. Lastly, as fertility clinics only continue to encounter TAYAs who are seeking FP services, it is crucial to apply specific sensitivity training for medical personnel to make the FP process both more accessible and less stressful for TAYAs.

Supplementary data

Supplementary data are available at *Human Reproduction Update* online.

Acknowledgements

We would like to acknowledge Janice Montbriand, PhD, Sunnybrook Research Institute, Department of Obstetrical Anesthesia, for her assistance in quality assessment and the assistance of research librarian Mona Frantzke, BSc, MLS, for her assistance in conducting an electronic database search. Our sincere thanks to Dawn Richards, PhD, for reviewing the manuscript and providing insightful comments.

Authors' roles

Study conception and design: all authors; search strategy design and execution: S.B., S.A.M., S.Y.; data extraction: S.B., S.A.M., S.Y.; data interpretation: all authors; drafting of manuscript: S.B., S.A.M., S.Y.; critical revision of manuscript: all authors; and manuscript approval for submission: all authors.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Conflict of interest

None declared.

References

Abir R, Ben-Aharon I, Garor R, Yaniv I, Ash S, Stemmer SM, Ben-Haroush A, Freud E, Kravarusic D, Sapir O *et al.* Cryopreservation of in vitro matured oocytes in addition to ovarian tissue freezing for fertility preservation in paediatric female cancer patients before and after cancer therapy. *Hum Reprod* 2016;**31**:750–762.

Adeleye AJ, Reid G, Kao CN, Mok-Lin E, Smith JF. Semen parameters among transgender women with a history of hormonal treatment. *Urology* 2019;**124**:136–141.

Arcelus J, Bouman WP, Van Den Noortgate W, Claes L, Witcomb G, Fernandez-Aranda F. Systematic review and meta-analysis of prevalence studies in transsexualism. *Eur Psychiatry* 2015;**30**:807–815.

Armund G, Dhejne C, Olofsson JI, Rodriguez-Wallberg KA. Transgender men's experiences of fertility preservation: a qualitative study. *Hum Reprod* 2017;**32**:383–390.

Auer MK, Fuss J, Nieder TO, Briken P, Biedermann SV, Stalla GK, Beckmann MW, Hildebrandt T. Desire to have children among transgender people in Germany: a cross-sectional multi-center study. *J Sex Med* 2018;**15**:757–767.

Bartholomaeus C, Riggs DW. Transgender and non-binary Australians' experiences with healthcare professionals in relation to fertility preservation. *Cult Health Sex* 2019. doi.org/10.1080/13691058.2019.1580388.

Bocking WO, Coleman E. Developmental stages of the transgender coming out process: Toward an integrated identity. In Ettner R, Monstrey S and Eyler A (eds). *Principles of transgender medicine and surgery* 2007. The Haworth Press, New York, US, pp. 185–208.

Belaish-Allart J, Dufetre C, Allart JP, De Mouzon J. Comparison of transvaginal and transabdominal ultrasound for monitoring follicular development in an in-vitro fertilization programme. *Hum Reprod* 1991;**6**:688–689.

Brannstrom M, Johannesson L, Bokstrom H, Kvarnstrom N, Molne J, Dahm-Kahler P, Enskog A, Milenkovic M, Ekberg J, Diaz-Garcia C *et al.* Livebirth after uterus transplantation. *Lancet* 2015;**385**:607–616.

Brik T, Vrouwenraets L, SEE S, Meissner A, de Vries MC, Hannema SE. Use of fertility preservation among a cohort of transgirls in the Netherlands. *J Adolesc Health* 2019;**64**:589–593.

Broughton D, Omurtag K. Care of the transgender or gender-nonconforming patient undergoing in vitro fertilization. *Int J Transgenderism* 2017;**18**:372–375.

Caanen MR, Schouten NE, Kuijper EAM, van Rijswijk J, van den Berg MH, van Dulmen-den Broeder E, Overbeek A, van Leeuwen FE, van Trotsenburg M, Lambalk CB. Effects of long-term exogenous testosterone administration on ovarian morphology, determined by transvaginal (3D) ultrasound in female-to-male transsexuals. *Hum Reprod* 2017;**32**:1457–1464.

Caanen MR, Soleman RS, Kuijper EA, Kreukels BP, De Roo C, Tilleman K, De Sutter P, van Trotsenburg MA, Broekmans FJ, Lambalk CB. Antimüllerian hormone levels decrease in female-to-male transsexuals using testosterone as cross-sex therapy. *Fertil Steril* 2015;**103**:1340–1345.

Chen D, Bernardi LA, Pavone ME, Feinberg EC, Moravek MB. Oocyte cryopreservation among transmasculine youth: a case series. *J Assist Reprod Genet* 2018;**35**:2057–2061.

Chen D, Kolbuck VD, Sutter ME, Tishelman AC, Quinn GP, Nahata L. Knowledge, practice behaviors, and perceived barriers to fertility care among providers of transgender healthcare. *J Adolesc Health* 2019;**64**:226–234.

Chen D, Simons L, Johnson EK, Lockart BA, Finlayson C. Fertility preservation for transgender adolescents. *J Adolesc Health* 2017;**61**:120–123.

Chiniara LN, Viner C, Palmert M, Bonifacio H. Perspectives on fertility preservation and parenthood among transgender youth and their parents. *Arch Dis Child* 2019;**104**:739–744.

Cobo A, Bellver J, Domingo J, Perez S, Crespo J, Pellicer A, Remohi J. New options in assisted reproduction technology: the Cryotop method of oocyte vitrification. *Reprod Biomed Online* 2008a;**17**:68–72.

- Cobo A, Castello D, Vallejo B, Albert C, de los Santos JM, Remohi J. Outcome of cryotransfer of embryos developed from vitrified oocytes: double vitrification has no impact on delivery rates. *Fertil Steril* 2013;**99**:1623–1630.
- Cobo A, Coello A, Remohi J, Serrano J, de Los Santos JM, Meseguer M. Effect of oocyte vitrification on embryo quality: time-lapse analysis and morphokinetic evaluation. *Fertil Steril* 2017;**108**:491–497.
- Cobo A, Domingo J, Perez S, Crespo J, Remohi J, Pellicer A. Vitrification: an effective new approach to oocyte banking and preserving fertility in cancer patients. *Clin Transl Oncol* 2008b;**10**:268–273.
- Coleman E, Bocking W, Botzer M, Cohen-Kettenis P, DeCuypere G, Feldman J, Fraser L, Green J, Knudson G, Meyer WJ et al. Standards of care for the health of transsexual, transgender, and gender-nonconforming people, Version 7. *Int J Transgenderism* 2012;**13**:165–232.
- Collin L, Reisner SL, Tangpricha V, Goodman M. Prevalence of transgender depends on the 'case' definition: a systematic review. *J Sex Med* 2016;**13**:613–626.
- Committee on Adolescent Health Care of the American College of Obstetricians and Gynecologists. Committee Opinion No. 685: care for transgender adolescents. *Obstet Gynecol* 2017;**129**:e11–e16.
- Coticchio G, Bromfield JJ, Sciajno R, Gambardella A, Scaravelli G, Borini A, Albertini DF. Vitrification may increase the rate of chromosome misalignment in the metaphase II spindle of human mature oocytes. *Reprod Biomed Online* 2009;**19**:29–34.
- Crissman HP, Berger MB, Graham LF, Dalton VK. Transgender demographics: a household probability sample of US adults, 2014. *Am J Public Health* 2017;**107**:213–215.
- Demeestere I, Simon P, Dedeken L, Moffa F, Tsepelidis S, Brachet C, Delbaere A, Devreker F, Ferster A. Live birth after autograft of ovarian tissue cryopreserved during childhood. *Hum Reprod* 2015;**30**:2107–2109.
- De Roo C, Lierman S, Tillemans K, Peynshaert K, Braeckmans K, Caenen M, Lambalk CB, Weyers S, T'Sjoen G, Cornelissen R et al. Ovarian tissue cryopreservation in female-to-male transgender people: insights into ovarian histology and physiology after prolonged androgen treatment. *Reprod Biomed Online* 2017;**34**:557–566.
- De Sutter P, Kira K, Verschoor A, Hotimsky A. The desire to have children and the preservation of fertility in transsexual women: a survey. *Int J Transgenderism* 2002;**6**:97–103.
- Donnez J, Dolmans MM. Fertility preservation in women. *N Engl J Med* 2018;**378**:400–401.
- Donnez J, Dolmans MM. Ovarian cortex transplantation: 60 reported live births brings the success and worldwide expansion of the technique towards routine clinical practice. *J Assist Reprod Genet* 2015;**32**:1167–1170.
- von Doussa H, Power J, Riggs D. Imagining parenthood: the possibilities and experiences of parenthood among transgender people. *Cult Health Sex* 2015;**17**:1119–1131.
- Downs SH, Black N. The feasibility of creating a checklist for the assessment of the methodological quality of both randomised and non-randomised studies of health care interventions. *J Epidemiol Community Health* 1998;**52**:377–384.
- Ejzenberg D, Andraus W, Baratelli Carelli Mendes LR, Ducatti L, Song A, Tanigawa R, Rocha-Santos V, Macedo Arantes R, Soares JM Jr, Serafini PC et al. Livebirth after uterus transplantation from a deceased donor in a recipient with uterine infertility. *Lancet* 2019;**392**:2697–2704.
- Eskioçak S, Gozen AS, Taskiran A, Kilic AS, Eskioçak M, Gulen S. Effect of psychological stress on the L-arginine-nitric oxide pathway and semen quality. *Braz J Med Biol Res* 2006;**39**:581–588.
- Ethics Committee of the American Society for Reproductive Medicine. Access to fertility services by transgender persons: an Ethics Committee opinion. *Fertil Steril* 2015;**104**:1111–1115.
- Fasano G, Dechene J, Antonacci R, Biramane J, Vannin AS, Van Langendonck A, Devreker F, Demeestere I. Outcomes of immature oocytes collected from ovarian tissue for cryopreservation in adult and prepubertal patients. *Reprod Biomed Online* 2017;**34**:575–582.
- Flores EF, Herman JL, Gates GJ, Brown TNT. *How Many Adults Identify as Transgender in the United States?* Los Angeles, CA: The Williams Institute, 2016. Retrieved from <https://williamsinstitute.law.ucla.edu/wp-content/uploads/How-Many-Adults-Identify-as-Transgender-in-the-United-States.pdf> (21 June 2019, date last accessed).
- Futterweit W, Deligdisch L. Histopathological effects of exogenously administered testosterone in 19 female to male transsexuals. *J Clin Endocrinol Metab* 1986;**62**:16–21.
- Gasse K, Orwig KE. Experimental methods to preserve male fertility and treat male factor infertility. *Fertil Steril* 2016;**105**:256–266.
- Gorin-Lazard A, Baumstarck K, Boyer L, Maquigneau A, Penochet JC, Pringuey D, Albarel F, Morange I, Bonierbale M, Lancon C et al. Hormonal therapy is associated with better self-esteem, mood, and quality of life in transsexuals. *J Nerv Ment Dis* 2013;**201**:996–1000.
- Government of Ontario. Get fertility treatment. 2017 Retrieved from <https://www.ontario.ca/page/get-fertility-treatments> (21 June 2019, date last accessed).
- Grynberg M, Fanchin R, Dubost G, Colau JC, Bremont-Weil C, Frydman R, Ayoubi JM. Histology of genital tract and breast tissue after long-term testosterone administration in a female-to-male transsexual population. *Reprod Biomed Online* 2010;**20**:553–558.
- Hamada A, Kingsberg S, Wierckx K, T'Sjoen G, De Sutter P, Knudson G, Agarwal A. Semen characteristics of transwomen referred for sperm banking before sex transition: a case series. *Andrologia* 2015;**47**:832–838.
- Hembree WC, Cohen-Kettenis P, Delemarre-van de Waal HA, Gooren LJ, Meyer WJ, Spack NP, Tangpricha V, Montori VM, Society E. Endocrine treatment of transsexual persons: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab* 2009;**94**:3132–3154.
- Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, Rosenthal SM, Safer JD, Tangpricha V, T'Sjoen GG. Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab* 2017;**102**:3869–3903.
- Herman JL, Wilson BD, Becker T. *Demographic and health characteristics of transgender adults in California: findings from the 2015–2016 California health interview survey*. The Williams Institute and UCLA Center for Health Policy Research: Los Angeles, CA, 2017
- Hunger S. Commentary: transgender people are not that different after all. *Camb Q Healthc Ethics* 2012;**21**:287–289.
- Ikeda K, Baba T, Noguchi H, Nagasawa K, Endo T, Kiya T, Saito T. Excessive androgen exposure in female-to-male transsexual persons of reproductive age induces hyperplasia of the ovarian

- cortex and stroma but not polycystic ovary morphology. *Hum Reprod* 2013;**28**:453–461.
- Inhorn MC, Birenbaum-Carmeli D, Birger J, Westphal LM, Doyle J, Gleicher N, Meirow D, Dirnfeld M, Seidman D, Kahane A et al. Elective egg freezing and its underlying socio-demography: a binational analysis with global implications. *Reprod Biol Endocrinol* 2018;**16**:70.
- James-Abra S, Tarasoff LA, Green D, Epstein R, Anderson S, Marvel S, Steele LS, Ross LE. Trans people's experiences with assisted reproduction services: a qualitative study. *Hum Reprod* 2015;**30**:1365–1374.
- Javed A, Khan Z, Pittock ST, Jensen JR. Options for fertility preservation in children. *Pediatr Endocrinol Rev* 2018;**15**:223–233.
- Jensen AK, Macklon KT, Fedder J, Ernst E, Humaidan P, Andersen CY. 86 successful births and 9 ongoing pregnancies worldwide in women transplanted with frozen-thawed ovarian tissue: focus on birth and perinatal outcome in 40 of these children. *J Assist Reprod Genet* 2017a;**34**:325–336.
- Jensen AK, Reznitz C, Macklon KT, Iversen MR, Birkebaek N, Clausen N, Sorensen K, Fedder J, Ernst E, Andersen CY. Cryopreservation of ovarian tissue for fertility preservation in a large cohort of young girls: focus on pubertal development. *Hum Reprod* 2017b;**32**:154–164.
- Jindarak S, Nilprapha K, Atikankul T, Angspatt A, Pungasmi P, Iamphongsai S, Promniyom P, Suwajo P, Selvaggi G, Tiewtranon P et al. Spermatogenesis abnormalities following hormonal therapy in transwomen. *Biomed Res Int* 2018;**2018**:1–5.
- Johnson EK, Chen D, Gordon EJ, Rosoklija I, Holl JL, Finlayson C. Fertility-related care for gender and sex diverse individuals: a provider needs-assessment survey. *Transgend Health* 2016;**1**:197–201.
- Jones B, Williams N, Saso S, Thum M-Y, Quiroga I, Yazbek J, Wilkinson S, Ghaem-Maghami S, Thomas P, Smith J. Uterine transplantation in transgender women. *BJOG* 2019;**126**:152–156.
- Jones CA, Reiter L, Greenblatt E. Fertility preservation in transgender patients. *Int J Transgenderism* 2016;**17**:76–82.
- Kafetsoulis A, Brackett NL, Ibrahim E, Attia GR, Lynne CM. Current trends in the treatment of infertility in men with spinal cord injury. *Fertil Steril* 2006;**86**:781–789.
- Kedem A, Yerushalmi GM, Brengauz M, Raanani H, Orvieto R, Hourvitz A, Meirow D. Outcome of immature oocytes collection of 119 cancer patients during ovarian tissue harvesting for fertility preservation. *J Assist Reprod Genet* 2018;**35**:851–856.
- Kent MA, Winoker JS, Grotas AB. Effects of feminizing hormones on sperm production and malignant changes: microscopic examination of post orchiectomy specimens in transwomen. *Urology* 2018;**121**:93–96.
- Kyweluk MA, Sajwani A, Chen D. Freezing for the future: transgender youth respond to medical fertility preservation. *Int J Transgenderism* 2018;**19**:401–416.
- Leavy M, Trottmann M, Liedl B, Reese S, Stief C, Freitag B, Baugh J, Spagnoli G, Kolle S. Effects of elevated beta-estradiol levels on the functional morphology of the testis - new insights. *Sci Rep* 2017;**7**:39931.
- Lee SJ, Schover LR, Partridge AH, Patrizio P, Wallace WH, Hagerty K, Beck LN, Brennan LV, Oktay K. American Society of clinical oncology recommendations on fertility preservation in cancer patients. *J Clin Oncol* 2006;**24**:2917–2931.
- Li K, Rodriguez D, Gabrielsen JS, Centola GM, Tanrikut C. Sperm cryopreservation of transgender individuals: trends and findings in the past decade. *Andrology* 2018;**6**:860–864.
- Li Y, Li Y, Zhou N, Han X, Ma M, Li L, Cai M, Cui Z, Lin H, Zhou Z et al. Socio-psycho-behavioural factors associated with male semen quality in China: results from 1346 healthy men in Chongqing. *J Fam Plann Reprod Health Care* 2013;**39**:102–110.
- Lierman S, Tilleman K, Braeckmans K, Peynshaert K, Weyers S, T'Sjoen G, De Sutter P. Fertility preservation for trans men: frozen-thawed in vitro matured oocytes collected at the time of ovarian tissue processing exhibit normal meiotic spindles. *J Assist Reprod Genet* 2017;**34**:1449–1456.
- Light A, Wang LF, Zeymo A, Gomez-Lobo V. Family planning and contraception use in transgender men. *Contraception* 2018;**98**:266–269.
- Light AD, Obedin-Maliver J, Sevelius JM, Kerns JL. Transgender men who experienced pregnancy after female-to-male gender transitioning. *Obstet Gynecol* 2014;**124**:1120–1127.
- Loren AW, Mangu PB, Beck LN, Brennan L, Magdalinski AJ, Partridge AH, Quinn G, Wallace WH, Oktay K. Fertility preservation for patients with cancer: American Society of Clinical Oncology clinical practice guideline update. *J Clin Oncol* 2013;**31**:2500–2510.
- Loverro G, Resta L, Dellino M, Edoardo DN, Cascarano MA, Loverro M, Mastrolia SA. Uterine and ovarian changes during testosterone administration in young female-to-male transsexuals. *Taiwan J Obstet Gynecol* 2016;**55**:686–691.
- Mandelbaum J, Anastasiou O, Levy R, Guerin JF, de Larouziere V, Antoine JM. Effects of cryopreservation on the meiotic spindle of human oocytes. *Eur J Obstet Gynecol Reprod Biol* 2004;**113**:S17–S23.
- Martinez F. Update on fertility preservation from the Barcelona International Society for Fertility Preservation-ESHRE-ASRM 2015 expert meeting: indications, results and future perspectives. *Hum Reprod* 2017;**32**:1802–1811.
- Matoso A, Khandakar B, Yuan S, Wu T, Wang LJ, Lombardo KA, Mangray S, Mannan A, Yakirevich E. Spectrum of findings in orchiectomy specimens of persons undergoing gender confirmation surgery. *Hum Pathol* 2018;**76**:91–99.
- Maxwell S, Noyes N, Keefe D, Berkeley AS, Goldman KN. Pregnancy outcomes after fertility preservation in transgender men. *Obstet Gynecol* 2017;**129**:1031–1034.
- Meriggiola MC, Gava G. Endocrine care of transpeople part I. A review of cross-sex hormonal treatments, outcomes and adverse effects in transmen. *Clin Endocrinol (Oxf)* 2015a;**83**:597–606.
- Meriggiola MC, Gava G. Endocrine care of transpeople part II. A review of cross-sex hormonal treatments, outcomes and adverse effects in transwomen. *Clin Endocrinol (Oxf)* 2015b;**83**:607–615.
- Merklinghaus A, Neuhaus N, Schneider F, Wistuba J, Gromoll J, Zitzmann M, Hess J, Furchert S, Van Ahlen H, Kliesch S et al. CAG-repeat length is not associated with heterogeneous suppression of spermatogenesis in testes from patients with sex reassignment therapy. *J Reproduktionsmed Endokrinol* 2015;**12**:470.
- Moher D, Liberati A, Tetzlaff J, Altman DG. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 2009;**339**:b2535.
- Nahata L, Tishelman AC, Caltabellotta NM, Quinn GP. Low fertility preservation utilization among transgender youth. *J Adolesc Health* 2017;**61**:40–44.

- Fertility preservation for transgender individuals
- Nargund VH. Effects of psychological stress on male fertility. *Nat Rev Urol* 2015;**12**:373–382.
- Obedin-Maliver J, Makadon HJ. Transgender men and pregnancy. *Obstet Med* 2016;**9**:4–8.
- Oktay K, Turan V, Bedoschi G, Pacheco FS, Moy F. Fertility preservation success subsequent to concurrent aromatase inhibitor treatment and ovarian stimulation in women with breast cancer. *J Clin Oncol* 2015;**33**:2424–2429.
- Pache TD, Chadha S, Gooren LJ, Hop WC, Jaarsma KW, Dommerholt HB, Fauser BC. Ovarian morphology in long-term androgen-treated female to male transsexuals. A human model for the study of polycystic ovarian syndrome? *Histopathology* 1991;**19**:445–452.
- Payne JG, Erbenius T. Conceptions of transgender parenthood in fertility care and family planning in Sweden: from reproductive rights to concrete practices. *Anthropol Med* 2018;**25**:329–343.
- Picton HM, Wyns C, Anderson RA, Goossens E, Jahnukainen K, Kliesch S, Mitchell RT, Pennings G, Rives N, Tournaye H et al. A European perspective on testicular tissue cryopreservation for fertility preservation in prepubertal and adolescent boys. *Hum Reprod* 2015;**30**:2463–2475.
- Practice Committee of the American Society for Reproductive Medicine. In vitro maturation: a committee opinion. *Fertil Steril* 2013a;**99**:663–666.
- Practice Committee of the American Society for Reproductive Medicine. Mature oocyte cryopreservation: a guideline. *Fertil Steril* 2013b;**99**:37–43.
- Practice Committee of the American Society for Reproductive Medicine. American Society for Reproductive Medicine position statement on uterus transplantation: a committee opinion. *Fertil Steril* 2018;**110**:605–610.
- Practice Committees of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology. Ovarian tissue cryopreservation: a committee opinion. *Fertil Steril* 2014;**101**:1237–1243.
- Rafferty J. Ensuring comprehensive care and support for transgender and gender-diverse children and adolescents. *Pediatrics* 2018;**142**:e20182162.
- Rao M, Zhao XL, Yang J, Hu SF, Lei H, Xia W, Zhu CH. Effect of transient scrotal hyperthermia on sperm parameters, seminal plasma biochemical markers, and oxidative stress in men. *Asian J Androl* 2015;**17**:668–675.
- Riggs DW, Bartholomaeus C. Fertility preservation decision making amongst Australian transgender and non-binary adults. *Reprod Health* 2018;**15**:181.
- Rosen MP, Shen S, Dobson AT, Rinaudo PF, McCulloch CE, Cedars ML. A quantitative assessment of follicle size on oocyte developmental competence. *Fertil Steril* 2008;**90**:684–690.
- Sato T, Katagiri K, Yokonishi T, Kubota Y, Inoue K, Ogonuki N, Matoba S, Ogura A, Ogawa T. In vitro production of fertile sperm from murine spermatogonial stem cell lines. *Nat Commun* 2011;**2**:472.
- Schneider F, Kliesch S, Schlatt S, Neuhaus N. Andrology of male-to-female transsexuals: influence of cross-sex hormone therapy on testicular function. *Andrology* 2017;**5**:873–880.
- Schneider F, Neuhaus N, Wistuba J, Zitzmann M, Hes J, Mahler D, van Ahlen H, Schlatt S, Kliesch S. Testicular functions and clinical characterization of patients with gender dysphoria (GD) undergoing sex reassignment surgery (SRS). *J Sex Med* 2015;**12**:2190–2200.
- Segers I, Mateizel I, Van Moer E, Smits J, Tournaye H, Verheyen G, De Vos M. In vitro maturation (IVM) of oocytes recovered from ovariectomy specimens in the laboratory: a promising "ex vivo" method of oocyte cryopreservation resulting in the first report of an ongoing pregnancy in Europe. *J Assist Reprod Genet* 2015;**32**:1221–1231.
- Shalom-Paz E, Almog B, Shehata F, Huang J, Holzer H, Chian RC, Son WY, Tan SL. Fertility preservation for breast-cancer patients using IVM followed by oocyte or embryo vitrification. *Reprod Biomed Online* 2010;**21**:566–571.
- Sonksen J, Ohl DA. Penile vibratory stimulation and electroejaculation in the treatment of ejaculatory dysfunction. *Int J Androl* 2002;**25**:324–332.
- Spinder T, Spijkstra JJ, van den Tweel JG, Burger CW, van Kessel H, Hompes PG, Gooren LJ. The effects of long term testosterone administration on pulsatile luteinizing hormone secretion and on ovarian histology in eugonadal female to male transsexual subjects. *J Clin Endocrinol Metab* 1989;**69**:151–157.
- Stoller RJ. A contribution to the study of gender identity. *Int J Psychoanal* 1964;**45**:220–226.
- Strang JF, Jarin J, Call D, Clark B, Wallace GL, Anthony LG, Kenworthy L, Gomez-Lobo V. Transgender youth fertility attitudes questionnaire: measure development in nonautistic and autistic transgender youth and their parents. *J Adolesc Health* 2018;**62**:128–135.
- Sun M, Yuan Q, Niu M, Wang H, Wen L, Yao C, Hou J, Chen Z, Fu H, Zhou F et al. Efficient generation of functional haploid spermatids from human germline stem cells by three-dimensional-induced system. *Cell Death Differ* 2018;**25**:747–764.
- Tack LJ, Craen M, Dhondt K, Vanden Bossche H, Laridaen J, Cools M. Consecutive lynestrenol and cross-sex hormone treatment in biological female adolescents with gender dysphoria: a retrospective analysis. *Biol Sex Differ* 2016;**7**:14.
- Testa G, McKenna GJ, Gunby RT, Anthony T, Koon EC, Warren AM, Putman JM, Zhang L, dePrisco G, Mitchell JM et al. First live birth after uterus transplantation in the United States. *Am J Transplant* 2018;**18**:1270–1274.
- Tishelman AC, Sutter ME, Chen D, Sampson A, Nahata L, Kolbuck VD, Quinn GP. Health care provider perceptions of fertility preservation barriers and challenges with transgender patients and families: qualitative responses to an international survey. *J Assist Reprod Genet* 2019;**36**:579–588.
- T'Sjoen G, Arcelus J, Gooren L, Klink DT, Tangpricha V. Endocrinology of transgender medicine. *Endocr Rev* 2019;**40**:97–117.
- Vassena R, Eguizabal C, Heindryckx B, Sermon K, Simon C, van Pelt AM, Veiga A, Zambelli F. Stem cells in reproductive medicine: ready for the patient? *Hum Reprod* 2015;**30**:2014–2021.
- Wallace SA, Blough KL, Kondapalli LA. Fertility preservation in the transgender patient: expanding oncofertility care beyond cancer. *Gynecol Endocrinol* 2014;**30**:868–871.
- Wiepjes CM, Nota NM, de Blok CJM, Klaver M, de Vries ALC, Wensing-Kruger SA, de Jongh RT, Bouman MB, Steensma TD, Cohen-Kettenis P et al. The Amsterdam cohort of gender dysphoria study (1972–2015): trends in prevalence, treatment, and regrets. *J Sex Med* 2018;**15**:582–590.

- Wierckx K, Stuyver I, Weyers S, Hamada A, Agarwal A, De Sutter P, T'Sjoen G. Sperm freezing in transsexual women. *Arch Sex Behav* 2012a;**41**:1069–1071.
- Wierckx K, Van Caenegem E, Pennings G, Elaut E, Dedeker D, Van de F, Weyers S, De Sutter P, T'Sjoen G. Reproductive wish in transsexual men. *Hum Reprod* 2012b;**27**:483–487.
- Wittmaack FM, Kreger DO, Blasco L, Tureck RW, Mastroianni L Jr, Lessey BA. Effect of follicular size on oocyte retrieval, fertilization, cleavage, and embryo quality in in vitro fertilization cycles: a 6-year data collection. *Fertil Steril* 1994;**62**:1205–1210.
- Ye Y. Addition of endothelin-I to culture medium promotes human oocyte maturation. *Fertil Steril* 2016;**106**:e190–e191.
- Yin H, Kristensen SG, Jiang H, Rasmussen A, Andersen CY. Survival and growth of isolated pre-antral follicles from human ovarian medulla tissue during long-term 3D culture. *Hum Reprod* 2016;**31**:1531–1539.
- Zarandi NP, Galdon G, Kogan S, Atala A, Sadri-Ardekani H. Cryostorage of immature and mature human testis tissue to preserve spermatogonial stem cells (SSCs): a systematic review of current experiences toward clinical applications. *Stem Cells Cloning* 2018;**11**:23–38.



Care of children and adolescents with gender dysphoria

Summary

Summary

The National Board of Health and Welfare (NBHW) has been commissioned by the Swedish government to update the national guidelines on care of children and adolescents with gender dysphoria, first published in 2015 [1]. Guidelines chapters are updated stepwise and this report contains revised guidance on psychosocial support and diagnostic assessment, and on puberty suppressing treatment with GnRH-analogues and gender-affirming hormonal treatment. This report thus replaces the corresponding chapters in the publication from 2015. Remaining chapters and the updated guidelines as a whole will be published later in 2022. In response to comments received during external review, two new chapters have been added, named *New recommendations on hormonal treatment – their reasons and consequences* and *Non-binary gender identity – current knowledge and a need for clarification*. Another difference compared to the guidelines from 2015 [1] is that the term “gender incongruence” is used alongside the term “gender dysphoria”. For explanations of terms and abbreviations, see Appendix 2. For a description of the scientific evidence and clinical experience underlying the recommendations and the work process, see Appendices 3 and 4.

The guidelines apply to children and adolescents, i.e. people under 18 years of age. In the medical text sections, the term children (barn) refers to persons who have not yet entered puberty, while the term adolescents (ungdomar) refers to people whose puberty has started. In the text sections relating to juridical regulations, only the term children (barn) is used and denotes people younger than 18 years of age. Finally, the term “young people” (unga) is sometimes used in text sections addressing both children and adolescents.

Introductory comment

The summary that follows and the introductory chapter describe that the updated recommendations for puberty suppression with GnRH-analogues and gender-affirming hormonal treatment have become more restrictive compared to 2015, and the reasons that they have changed. The new recommendations entail that a larger

proportion than before, among adolescents with gender incongruence referred for diagnostic assessment of gender dysphoria, will need to be offered other care than hormonal treatments. Questions on how to ensure that all young people suffering from gender dysphoria be taken seriously and confirmed in their gender identity, well received and offered adequate care are becoming increasingly relevant, and will need to be answered during the ongoing restructuring of certain care for gender dysphoria into three national specialised medical care services (NBHW decision in December 2020). The care for children, adolescents and adults with gender dysphoria in these three national specialised units aims to improve equality in care, coordination and dialogue, and may enhance the implementation of national guidelines.

Recommendations and criteria for hormonal treatment

For adolescents with gender incongruence, the NBHW deems that the risks of puberty suppressing treatment with GnRH-analogues and gender-affirming hormonal treatment currently outweigh the possible benefits, and that the treatments should be offered only in exceptional cases. This judgement is based mainly on three factors: the continued lack of reliable scientific evidence concerning the efficacy and the safety of both treatments [2], the new knowledge that detransition occurs among young adults [3], and the uncertainty that follows from the yet unexplained increase in the number of care seekers, an increase particularly large among adolescents registered as females at birth [4].

A systematic review published in 2022 by the Swedish Agency for Health Technology Assessment and Assessment of Social Services [2] shows that the state of knowledge largely remains unchanged compared to 2015. High quality trials such as RCTs are still lacking and the evidence on treatment efficacy and safety is still insufficient and inconclusive for all reported outcomes. Further, it is not possible to determine how common it is for adolescents who undergo gender-affirming treatment to later change their perception of their gender identity or interrupt an ongoing treatment. An important difference compared to 2015 however, is that the occurrence of

detransition among young adults is now documented [3], meaning that the uncertain evidence that indicates a low prevalence of treatment interruptions or any aspects of regret is no longer unchallenged. Although the prevalence of detransition is still unknown, the knowledge that it occurs and that genderconfirming treatment thus may lead to a deteriorating of health and quality of life (i.e. harm), is important for the overall judgement and recommendation.

To minimize the risk that a young person with gender incongruence later will regret a gender-affirming treatment, the NBHW deems that the criteria for offering GnRH-analogue and gender-affirming hormones should link more closely to those used in the Dutch protocol, where the duration of gender incongruence over time is emphasized [5-7]. Accordingly, an early (childhood) onset of gender incongruence, persistence of gender incongruence until puberty and a marked psychological strain in response to pubertal development is among the recommended criteria. The publications that describe these criteria and the treatment outcomes when given in accordance [5, 6, 8] constitute the best available knowledge and should be used as guidance.

To ensure that new knowledge is gathered, the NBHW further deems that treatment with GnRH-analogues and sex hormones for young people should be provided within a research context, which does not necessarily imply the use of randomized controlled trials (RCTs). As in other healthcare areas where it is difficult to conduct RCTs while retaining sufficient internal validity, it is also important that other prospective study designs are considered for ethical review and that register studies are made possible. Until a research study is in place, the NBHW deems that treatment with GnRH-analogues and sex hormones may be given in exceptional cases, in accordance with the updated recommendations and criteria described in the guidelines. The complex multidisciplinary assessments will eventually be carried out in the three national units that are granted permission to provide highly specialized care services.

In accordance with the DSM-5, the recommendations in the guidelines from 2015 applied to young people with gender dysphoria in general, i.e. also young people with a non-binary gender identity. Another criterion within the Dutch protocol is that the child has had a binary ("cross-gender") gender identity since childhood [5, 6].

It has emerged during the review process, that the clinical experience and documentation of puberty-suppressing and hormonal treatment for young people with non-binary gender identity is lacking, and also that it is limited for adults. The NBHW still considers that gender dysphoria rather than gender identity should determine access to care and treatment. An urgent work thus remains, to clarify criteria under which adolescents with non-binary gender identity may be offered puberty-suppressing and gender-affirming hormonal treatment within a research framework.

References

1. Socialstyrelsen. God vård av barn och ungdomar med könsdysfori. Nationellt kunskapsstöd. <https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/kunskapsstod/2015-4-6.pdf>; 2015.
2. Statens beredning för medicinsk och social utvärdering. Hormonbehandling vid könsdysfori - barn och unga. En systematisk översikt och utvärdering av medicinska aspekter: SBU; 2022.
3. Littman L. Individuals Treated for Gender Dysphoria with Medical and/or Surgical Transition Who Subsequently Detransitioned: A Survey of 100 Detransitioners. Arch Sex Behav. 2021; 50(8):3353-69.
4. Socialstyrelsen. Utvecklingen av diagnosen könsdysfori - förekomst, samtidiga psykiatriska diagnoser och dödlighet i suicid. <https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/ovrigt/2020-2-6600.pdf>; 2020.
5. Cohen-Kettenis PT, van Goozen SH. Sex reassignment of adolescent transsexuals: a follow-up study. J Am Acad Child Adolesc Psychiatry. 1997; 36(2):263-71.
6. Smith YL, van Goozen SH, Cohen-Kettenis PT. Adolescents with gender identity disorder who were accepted or rejected for sex reassignment surgery: a prospective follow-up study. J Am Acad Child Adolesc Psychiatry. 2001; 40(4):472-81.
7. Delemarre-van de Waal H, Cohen-Kettenis P. Clinical management of gender identity disorder in adolescents: a protocol on

psychological and paediatric endocrinology aspects. European Journal of Endocrinology. 2006; 155:S131-7.

8. Schagen SE, Cohen-Kettenis PT, Delemarre-van de Waal HA, Hannema SE. Efficacy and Safety of Gonadotropin-Releasing Hormone Agonist Treatment to Suppress Puberty in Gender Dysphoric Adolescents. J Sex Med. 2016; 13(7):1125-32.



STM038:00/2020

Recommendation of the Council for Choices in Health Care in Finland (PALKO / COHERE Finland)

Medical Treatment Methods for Dysphoria Related to Gender Variance In Minors



STM038:00/2020

Concepts

Suppression treatment	Pubertal suppression with GnRH analogues (drugs that inhibit gonadotropin-releasing hormone activity) to halt the development of secondary sex characteristics of the biological sex.
Cisgender/Cis person	A person whose gender identity matches the sex determined at birth (identifies, and is satisfied with, the sex determined at birth and generally expresses his/her gender accordingly).
Other gender identity	A person who does not identify as a man or a woman, but rather somewhere along the continuum or outside of it; genderless, nonbinary, or multigendered.
Transgender	A person whose gender identity differs from the legal and biological sex determined at birth but instead aligns with the opposite sex.



STM038:00/2020

Content

1.	Basis for Preparing These Recommendations	4
2.	Recommendations' Target Population	5
3.	Procedures Assessed	5
4.	Current Care	5
5.	Risks, Benefits and Uncertainty	6
6.	Ethical Assessment	6
7.	Conclusions	8
8.	Summary of the Recommendations	9
9.	Additional Evidence Gathering and Monitoring Impact of Recommendations	10
10.	Appendices	11



STM038:00/2020

1. Basis for Preparing These Recommendations

As the number of patients, including minors, referred to the Helsinki University Hospital (HUS) and the Tampere University Hospital (TAYS) multidisciplinary outpatient clinics for assessment and treatment of gender dysphoria has increased, PALKO (Council for Choices in Healthcare in Finland / COHERE Finland) decided to prepare recommendations for medical treatments of gender dysphoria, i.e., distress which is associated with a minor's gender variance and impairs function. Gender variance refers to a spectrum of gender experience anywhere on the male-female identity continuum or outside it, and is not exclusively confined to the dichotomized male/female conception of gender. Not all patients with gender variance experience significant suffering or functional impairments, and not all seek medical treatment.

These recommendations are based on the legislation in force at the time of the adoption of the recommendation, the available research evidence, and the clinical experience of multidisciplinary teams with expertise in gender dysphoria assessment and treatment at HUS and TAYS. The knowledge base supporting these recommendations is detailed in a separate Preparatory Memorandum and appendices and includes a description of planning and implementation of medical treatments, a literature review of medical treatments, an extensive ethical analysis, and feedback following meetings with patients and the advocacy groups who represent them.

Finnish legislation defines the requirements for the legal gender recognition of transsexuals (Act on Legal Recognition of the Gender of Transsexuals (Trans Act) 536/2002). The detailed requirements for providing the assessment and treatment to enable legal gender recognition are spelled out further in a Decree of the Ministry of Social Affairs and Health (1053/2002). The Trans Act and the related Decree apply to adults. For those who are not of legal age, there are no laws governing the provision and needs of transgender healthcare; however, these are subject to the Health Care Act of Finland (1326/2010), in particular section 7 (criteria for integrated care), section 7a (criteria for treatment options), section 8 (evidence-based, high quality, safe and appropriate care) and section 10 (rationale for centralization); and also to the Constitution of Finland (731/1999)'s section 6 on equality and section 19 on the right to adequate social and healthcare services. Finland's Act on the Status and Rights of Patients, (785/1992), and especially sections 5, 6, and 7, are also relevant.



STM038:00/2020

2. Recommendations' Target Population

These recommendations apply to minors suffering from dysphoria related to gender variance who are seeking a consultation regarding an evaluation of medical examination and treatment needs; the children and adolescents may identify with the opposite sex (transgender), or may identify as genderless, non-binary, or anywhere along or outside the male/female gender identity continuum (other gender).

3. Procedures Assessed

These recommendations focus on medical treatment procedures that aim to decrease suffering and functional impairment of gender-dysphoric minors.

4. Current Care

Cross-sex identification in childhood, even in extreme cases, generally disappears during puberty. However, in some cases, it persists or even intensifies. Gender dysphoria may also emerge or intensify at the onset of puberty. There is considerable variation in the timing of the onset of puberty in both sexes. The first-line treatment for gender dysphoria is psychosocial support and, as necessary, psychotherapy and treatment of possible comorbid psychiatric disorders.

Consultation appointments (for parents / caregivers) regarding pre-pubescent children's cross-sex identification or gender dysphoria are provided by the research group on the gender identity of minors at TAYS or HUS. However, ongoing support or other treatment of psychiatric disorders are provided through the local municipal services.

In clear cases of pre-pubertal onset of gender dysphoria that intensified during puberty, a referral can be made for an assessment by the research group at TAYS or HUS regarding the appropriateness for puberty suppression. If no contraindications to early intervention are identified, pubertal suppression with GnRH analogues (to suppress the effect of gonadotropin-releasing hormone) may be considered to prevent further development of secondary sex characteristics of the biological sex.

Adolescents who have already undergone puberty, whose gender dysphoria occurs in the absence of co-occurring symptoms requiring psychiatric treatment, and whose experience of transgender identity failed to resolve following a period of reflection, can be referred for assessment by the research group on the gender identity of minors at TAYS or HUS. Hormone therapy (testosterone/estrogen and anti-androgen) can be started after the diagnostic evaluations, but no earlier than age 16. Additionally, patients under 18 receive three to six months of GnRH analogue treatment prior to the initiation of cross-sex hormones in order to suppress the hormonal activity of the gonads. No gender confirmation surgeries are performed on minors.



STM038:00/2020

5. Risks, Benefits and Uncertainty

The literature review identified two studies with the total of 271 persons diagnosed with childhood-onset gender identity disorder and associated gender or body dysphoria that intensified after the onset of puberty (Preparatory Memorandum Appendix 1, Tables 15 and 16, pages 46-48).

In a smaller study of 70 adolescents, puberty was suppressed with the GnRH analogue at the average age of 14.8 (12-18 years) and puberty blockade continued for an average of 2 years. During the treatment period, the adolescents' mood improved, and the risk of behavioral disorders diminished, but gender dysphoria itself did not diminish, and there were no changes in body image. In a larger study consisting of 201 adolescents, 101 patients with the average age of 15.5 (12-18 years) started an 18-month psychological supportive intervention, and, additionally at six months, pubertal development was suppressed by starting GnRH analogue treatment. The other cohort of 100 only received psychological supportive intervention for 18 months. In both groups, statistically significant increases in global psychosocial functioning were found at 12 and 18 months; among those having received psychological intervention alone, the improvement in global functioning was already significant at the 6-month mark. Both studies lack long-term treatment follow-up into adulthood.

A recent Finnish study, published after the completion of this literature review, reported on the effect of initiating cross-sex hormone therapy on functioning, progression of developmental tasks of adolescence, and psychiatric symptoms. This study found that during cross-sex hormone therapy, problems in these areas did not decrease.

Potential risks of GnRH therapy include disruption in bone mineralization and the as yet unknown effects on the central nervous system. In trans girls, early pubertal suppression inhibits penile growth, requiring the use of alternative sources of tissue grafts for a potential future vaginoplasty. The effect of pubertal suppression and cross-sex hormones on fertility is not yet known.

6. Ethical Assessment

Although the ethics analysis did not systematically address the issues pertaining to children and adolescents, they have been discussed in several areas in the related documents (Preparatory Memorandum pages 52-62; Appendix 5).

According to the Health Care Act (section 8), healthcare services must be based on evidence and recognized treatment and operational practices. As far as minors are concerned, there are no medical treatment that can be considered evidence-based. At the same time, the numbers of minors developing gender dysphoria has increased. In this situation, it is vital to assure that children and young people are able to talk about their feelings, and that their feelings are acknowledged. The opportunity to reflect on one's experience should be easily accessible through the local health system (i.e., school or student health care, primary care). A young



STM038:00/2020

person's feelings should not be interpreted as immediately requiring specialized medical examinations or treatments.

In cases of children and adolescents, ethical issues are concerned with the natural process of adolescent identity development, and the possibility that medical interventions may interfere with this process. It has been suggested that hormone therapy (e.g., pubertal suppression) alters the course of gender identity development; i.e., it may consolidate a gender identity that would have otherwise changed in some of the treated adolescents. The reliability of the existing studies with no control groups is highly uncertain, and because of this uncertainty, no decisions should be made that can permanently alter a still-maturing minor's mental and physical development.

From the point of view of patient advocacy groups, halting puberty is providing young people with a period of reflection, rather than consolidating their gender identity. This is based on the premise that halting the development of one's permanent sex characteristics will improve the minor's social interactions, while allowing more time for diagnostic evaluations. Additionally, patient advocacy groups assert that early intervention with hormonal treatments will lead to improved outcomes for the patients who do eventually pursue gender reassignment. Professionals, for their part, consider it important to ensure that irreversible interventions, which may also have significant adverse effects, both physical and mental, are only performed on individuals who are able to understand the permanence of the changes and the potential for harm, and who are unlikely to regret such interventions. It is not known how the hormonal suppression of puberty affects young people's judgement and decision-making.

The Act on the Status and Rights of Patients (1992/785) states that the patient shall be provided with information about his/her state of health, the significance of the treatment, various alternative forms of treatment and their effects, and about other factors concerning treatment that have an effect on treatment decision-making. In a situation where a minor's identification with the opposite sex causes long-term and severe dysphoria, it is important to make sure that he/she understands the realistic potential of gender reassignment treatments to alter secondary sex characteristics, the reality of a lifelong commitment to medical therapy, the permanence of the effects, and the possible physical and mental adverse effects of the treatments. Although patients may experience regret, after reassignment treatments, there is no going back to the non-reassigned body and its normal functions. Brain development continues until early adulthood – about age 25, which also affects young people's ability to assess the consequences of their decisions on their own future selves for rest of their lives.

A lack of recognition of comorbid psychiatric disorders common among gender-dysphoric adolescents can also be detrimental. Since reduction of psychiatric symptoms cannot be achieved with hormonal and surgical interventions, it is not a valid justification for gender reassignment. A young person's identity and personality development must be stable so that they can genuinely face and discuss their gender dysphoria, the significance of their own feelings, and the need for various treatment options.

For children and adolescents, these factors are key reasons for postponing any interventions until adulthood.



STM038:00/2020

7. Conclusions

The first-line intervention for gender variance during childhood and adolescent years is psychosocial support and, as necessary, gender-explorative therapy and treatment for comorbid psychiatric disorders. Uncertainty related to gender identity should be dealt with according to the severity of symptoms and the need for treatment and should be handled at the school / student health care, primary health care at the local level, or in specialty care.

In adolescents, psychiatric disorders and developmental difficulties may predispose a young person to the onset of gender dysphoria. These young people should receive treatment for their mental and behavioral health issues, and their mental health must be stable prior to the determination of their gender identity.

Clinical experience reveals that autistic spectrum disorders (ASD) are overrepresented among adolescents suffering from gender dysphoria; even if such adolescents are presenting with gender dysphoria, rehabilitative interventions for ASD must be properly addressed.

In light of available evidence, gender reassignment of minors is an experimental practice. Based on studies examining gender identity in minors, hormonal interventions may be considered before reaching adulthood in those with firmly established transgender identities, but it must be done with a great deal of caution, and no irreversible treatment should be initiated. Information about the potential harms of hormone therapies is accumulating slowly and is not systematically reported. It is critical to obtain information on the benefits and risks of these treatments in rigorous research settings.

At a minimum, a consultation for a pre- pubescent child at the specialist setting at the TAYS includes an extensive assessment appointment costing EUR 369. If necessary, a day-long outpatient consultation can be arranged, costing EUR 1,408.

The consultation and assessment process for minors at the specialist settings of TAYS or HUS costs EUR 4,300. If it is determined that this process would be untimely, the minimum cost is EUR 640. An initial assessment / consultation by phone costs EUR 100.

The planning and monitoring costs for pubertal suppression are EUR 2,000 for the first year, and EUR 1,200 for subsequent years. The costs for the planning and monitoring of hormone treatments are a minimum of EUR 400 per year.

These costs do not take into account the additional costs of psychosocial support provided in the local level, the possible need for psychiatric treatment, or hormone treatment medication costs.



STM038:00/2020

8. Summary of the Recommendations

PALKO / COHERE maintains the following:

1. For the treatment of gender dysphoria due to variations in gender identity in minors, psychosocial support should be provided in school and student healthcare and in primary healthcare, and there must be sufficient competency to provide such support.
2. Consultation with a child or youth psychiatrist and the necessary psychiatric treatment and psychotherapy should be arranged locally according to the level of treatment needed.
3. If a child or young person experiencing gender-related anxiety has other simultaneous psychiatric symptoms requiring specialised medical care, treatment according to the nature and severity of the disorder must be arranged within the services of their own region, as no conclusions can be drawn on the stability of gender identity during the period of disorder caused by a psychiatric illness with symptoms that hamper development.

PALKO / COHERE considers that the consultation, periods of assessment, and treatments by the research group on the gender identity of minors at TAYS or HUS must be carried out according to the following principles:

1. Children who have not started puberty and are experiencing persistent, severe anxiety related to gender conflict and/or identification as the other sex may be sent for a consultation visit to the research group on the gender identity of minors at TAYS or HUS. Any need for support beyond the consultation visit or need for other psychiatric treatment should be addressed by local services according to the nature and severity of the problem.
2. If a child is diagnosed prior to the onset of puberty with a persistent experience of identifying as the other sex and shows symptoms of gender-related anxiety, which increases in severity in puberty, the child can be guided at the onset of puberty to the research group on the gender identity of minors at TAYS or HUS for an assessment of the need for treatment to suppress puberty. Based on these assessments, puberty suppression treatment may be initiated on a case-by-case basis after careful consideration and appropriate diagnostic examinations if the medical indications for the treatment are present and there are no contraindications. Therapeutic amenorrhea, i.e. prevention of menstruation, is also medically possible.
3. A young person who has already undergone puberty can be sent to the research clinic on the gender identity of minors at TAYS or HUS for extensive gender identity studies if the variation in gender identity and related dysphoria do not reflect the temporary search for identity typical of the development stage of adolescence and do not subside once the young person has had the opportunity to reflect on their identity but rather their identity and personality development appear to be stable.
4. Based on thorough, case-by-case consideration, the initiation of hormonal interventions that alter sex characteristics may be considered before the person is 18 years of age only if it can be ascertained that their identity as the other sex is of a permanent nature and causes severe dysphoria. In addition, it must be confirmed that the young person is able to understand the significance of irreversible treatments and the



STM038:00/2020

benefits and disadvantages associated with lifelong hormone therapy, and that no contraindications are present.

5. If a young person experiencing gender-related anxiety has experienced or is simultaneously experiencing psychiatric symptoms requiring specialized medical care, a gender identity assessment may be considered if the need for it continues after the other psychiatric symptoms have ceased and adolescent development is progressing normally. In this case, a young person can be sent by the specialized youth psychiatric care in their region for an extensive gender identity study by the TAYS or HUS research group on the gender identity of minors, which will begin the diagnostic studies. Based on the results of the studies, the need for and timeliness of medically justified treatments will be assessed individually.

Surgical treatments are not part of the treatment methods for dysphoria caused by gender-related conflicts in minors. The initiation and monitoring of hormonal treatments must be centralized at the research clinics on gender identity at HUS and TAYS.

9. Additional Evidence Gathering and Monitoring the Effectiveness of Recommendations

Moving forward, the following information must be obtained about the patients diagnosed and receiving treatments in Finland before re-evaluating these recommendations:

- Number of new patient referrals
- Number of patients starting the assessment period, and numbers of new transgender (F64.0) vs “other gender” (F64.8) diagnoses
- Whether the diagnosis remains stable or changes during the assessment phase
- Number of patients discontinuing the assessment period and the reasons for the discontinuation
- Adverse effects of treatments (especially long-term effects and effect on fertility)
- Number of patients regretting hormone therapy
- Analysis of the effects of the assessment and the treatment period on gender dysphoria outcomes, as measured by the Gender Congruence and Life Satisfaction Scale (GCLS)
- Analysis of the effects of the assessment and the treatment period on functional capacity and quality of life
- The prevalence of co-occurring psychiatric diagnoses (especially neurodevelopmental diagnoses F80-F90) among those diagnosed with / seeking treatment for gender dysphoria, and whether the presence of these co-occurring diagnoses impacts the ability to achieve the desired outcome (e.g. decreased dysphoria) in the assessment or the treatment phase.
- Whether the assessment and treatment periods lead to a reduction of suicide attempts
- Whether the assessment and treatment periods lead to a reduction in depression and distress



STM038:00/2020

10. **Appendices**

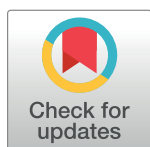
Preparatory Memorandum, with Appendices 1-5.

RESEARCH ARTICLE

Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria

Lisa Littman  *

Department of Behavioral and Social Sciences, Brown University School of Public Health, Providence, Rhode Island, United States of America

* Lisa_Littman@brown.edu

Abstract

Purpose

In on-line forums, parents have reported that their children seemed to experience a sudden or rapid onset of gender dysphoria, appearing for the first time during puberty or even after its completion. Parents describe that the onset of gender dysphoria seemed to occur in the context of belonging to a peer group where one, multiple, or even all of the friends have become gender dysphoric and transgender-identified during the same timeframe. Parents also report that their children exhibited an increase in social media/internet use prior to disclosure of a transgender identity. Recently, clinicians have reported that post-puberty presentations of gender dysphoria in natal females that appear to be rapid in onset is a phenomenon that they are seeing more and more in their clinic. Academics have raised questions about the role of social media in the development of gender dysphoria. The purpose of this study was to collect data about parents' observations, experiences, and perspectives about their adolescent and young adult (AYA) children showing signs of an apparent sudden or rapid onset of gender dysphoria that began during or after puberty, and develop hypotheses about factors that may contribute to the onset and/or expression of gender dysphoria among this demographic group.

Methods

For this descriptive, exploratory study, recruitment information with a link to a 90-question survey, consisting of multiple-choice, Likert-type and open-ended questions was placed on three websites where parents had reported sudden or rapid onsets of gender dysphoria occurring in their teen or young adult children. The study's eligibility criteria included parental response that their child had a sudden or rapid onset of gender dysphoria and parental indication that their child's gender dysphoria began during or after puberty. To maximize the chances of finding cases meeting eligibility criteria, the three websites (4thwavenow, transgender trend, and youthtranscriticalprofessionals) were selected for targeted recruitment. Website moderators and potential participants were encouraged to share the recruitment information and link to the survey with any individuals or communities that they thought

OPEN ACCESS

Citation: Littman L (2018) Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria. PLoS ONE 13(8): e0202330. <https://doi.org/10.1371/journal.pone.0202330>

Editor: Daniel Romer, University of Pennsylvania, UNITED STATES

Received: October 7, 2017

Accepted: August 1, 2018

Published: August 16, 2018

Copyright: © 2018 Lisa Littman. This is an open access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Data Availability Statement: The data cannot be made available due to ethical and regulatory restrictions. The study participants did not provide consent to have their responses shared publicly, shared in public databases, or shared with outside researchers. The Program for the Protection of Human Subjects (PPHS) at the Icahn School of Medicine at Mount Sinai is not permitting the sharing of data beyond what is reported in the paper owing to the sensitive nature of the collected information, the context of the study topic, its release's possible impact on the participants' reputation and standing in the community, and the

risk of participant recognition through linkage of details. As participants' identifiers were not collected it is not possible to contact participants and ask for their consent to disclose at this time. For any questions about restriction on data sharing, please contact PPHS at the Icahn School of Medicine at Mount Sinai (IRB@mssm.edu).

Funding: The author received no specific funding for this work.

Competing interests: Lisa Littman, MD, MPH, provides public health consulting on topics unrelated to this research. She is a member of several professional organizations including the American College of Preventive Medicine (ACPM), the American Public Health Association (APHA), the Society for Adolescent Health and Medicine (SAHM), the Society of Family Planning (SFP), the International Academy of Sex Research (IASR), and the World Professional Association for Transgender Health (WPATH).

might include eligible participants to expand the reach of the project through snowball sampling techniques. Data were collected anonymously via SurveyMonkey. Quantitative findings are presented as frequencies, percentages, ranges, means and/or medians. Open-ended responses from two questions were targeted for qualitative analysis of themes.

Results

There were 256 parent-completed surveys that met study criteria. The AYA children described were predominantly natal female (82.8%) with a mean age of 16.4 years at the time of survey completion and a mean age of 15.2 when they announced a transgender-identification. Per parent report, 41% of the AYAs had expressed a non-heterosexual sexual orientation before identifying as transgender. Many (62.5%) of the AYAs had reportedly been diagnosed with at least one mental health disorder or neurodevelopmental disability prior to the onset of their gender dysphoria (range of the number of pre-existing diagnoses 0–7). In 36.8% of the friendship groups described, parent participants indicated that the majority of the members became transgender-identified. Parents reported subjective declines in their AYAs' mental health (47.2%) and in parent-child relationships (57.3%) since the AYA "came out" and that AYAs expressed a range of behaviors that included: expressing distrust of non-transgender people (22.7%); stopping spending time with non-transgender friends (25.0%); trying to isolate themselves from their families (49.4%), and only trusting information about gender dysphoria from transgender sources (46.6%). Most (86.7%) of the parents reported that, along with the sudden or rapid onset of gender dysphoria, their child either had an increase in their social media/internet use, belonged to a friend group in which one or multiple friends became transgender-identified during a similar time-frame, or both

Conclusion

This descriptive, exploratory study of parent reports provides valuable detailed information that allows for the generation of hypotheses about factors that may contribute to the onset and/or expression of gender dysphoria among AYAs. Emerging hypotheses include the possibility of a potential new subcategory of gender dysphoria (referred to as rapid-onset gender dysphoria) that has not yet been clinically validated and the possibility of social influences and maladaptive coping mechanisms. Parent-child conflict may also explain some of the findings. More research that includes data collection from AYAs, parents, clinicians and third party informants is needed to further explore the roles of social influence, maladaptive coping mechanisms, parental approaches, and family dynamics in the development and duration of gender dysphoria in adolescents and young adults.

Introduction

In recent years, a number of parents have begun reporting in online discussion groups such as 4thwavenow in the US (<https://4thwavenow.com>) and Transgender Trend in the UK (<https://www.transgendertrend.com>) that their adolescent and young adult (AYA) children, who have had no histories of childhood gender identity issues, experienced a perceived sudden or rapid

onset of gender dysphoria. Parents have described clusters of gender dysphoria in pre-existing friend groups with multiple or even all members of a friend group becoming gender dysphoric and transgender-identified in a pattern that seems statistically unlikely based on previous research [1–8]. Parents describe a process of immersion in social media, such as “binge-watching” YouTube transition videos and excessive use of Tumblr, immediately preceding their child becoming gender dysphoric [1–2, 9]. These types of presentations have not been described in the research literature for gender dysphoria [1–10] and raise the question of whether social influences may be contributing to or even driving these occurrences of gender dysphoria in some populations of adolescents and young adults. (Note: The terminology of “natal sex”, including the terms “natal female” and “natal male”, will be used throughout this article. Natal sex refers to an individual’s sex as it was observed and documented at the time of birth. Some researchers also use the terminology “assigned at birth”).

Background

Gender dysphoria in adolescents

Gender dysphoria (GD) is defined as an individual’s persistent discomfort with their biological sex or assigned gender [11]. Two types of gender dysphoria studied include early-onset gender dysphoria, where the symptoms of gender dysphoria begin in early childhood, and late-onset gender dysphoria, where the symptoms begin after puberty [11]. Late-onset gender dysphoria that occurs during adolescence is now called adolescent-onset gender dysphoria. The majority of adolescents who present for care for gender dysphoria are individuals who experienced early-onset gender dysphoria that persisted or worsened with puberty although an atypical presentation has been described where adolescents who did not experience childhood symptoms present with new symptoms in adolescence [7, 12]. Adolescent-onset of gender dysphoria has only recently been reported in the literature for natal females [5, 10, 13–14]. In fact, prior to 2012, there were little to no research studies about adolescent females with gender dysphoria first beginning in adolescence [10]. Thus, far more is known about adolescents with early-onset gender dysphoria than adolescents with adolescent-onset gender dysphoria [6, 15]. Although not all research studies on gender dysphoric adolescents exclude those with adolescent-onset gender dysphoria [10], it is important to note that most of the studies on adolescents, particularly those about gender dysphoria persistence and desistance rates and outcomes for the use of puberty suppression, cross-sex hormones, and surgery only included subjects whose gender dysphoria began in childhood and subjects with adolescent-onset gender dysphoria would not have met inclusion criteria for these studies [16–24]. Therefore, most of the research on adolescents with gender dysphoria to date is not generalizable to adolescents experiencing adolescent-onset gender dysphoria [16–24] and the outcomes for individuals with adolescent-onset gender dysphoria, including persistence and desistance rates and outcomes for treatments, are currently unknown.

As recently as 2012, there were only two clinics (one in Canada and one in the Netherlands) that had gathered enough data to provide empirical information about the main issues for gender dysphoric adolescents [25]. Both institutions concluded that the management of adolescent-onset gender dysphoria is more complicated than the management of early-onset gender dysphoria and that individuals with adolescent-onset are more likely to have significant psychopathology [25]. The presentation of gender dysphoria can occur in the context of severe psychiatric disorders, developmental difficulties, or as part of large-scale identity issues and, for these patients, medical transition might not be advisable [13]. The APA Task Force on the Treatment of Gender Identity Disorder notes that adolescents with gender dysphoria “should be screened carefully to detect the emergence of the desire for sex reassignment in the context

of trauma as well as for any disorder (such as schizophrenia, mania, psychotic depression) that may produce gender confusion. When present, such psychopathology must be addressed and taken into account prior to assisting the adolescent's decision as to whether or not to pursue sex reassignment or actually assisting the adolescent with the gender transition." [25].

Demographic and clinical changes for gender dysphoria

Although, by 2013, there was research documenting that a significant number of natal males experienced gender dysphoria that began during or after puberty, there was little information about this type of presentation for natal females [5]. Starting in the mid-2000s there has been a substantial change in demographics of patients presenting for care with most notably an increase in adolescent females and an inversion of the sex ratio from one favoring natal males to one favoring natal females [26–28]. And now, some clinicians have noted that they are seeing increasingly in their clinic, the phenomenon of natal females expressing a post-puberty rapid onset of gender dysphoria [14]. Some researchers have suggested that increased visibility of transgender people in the media, availability of information online, with a partial reduction of stigma may explain some of the increases in numbers of patients seeking care [27], but these factors would not explain the reversal of the sex ratio, disproportionate increase in adolescent natal females, and the new phenomenon of natal females experiencing gender dysphoria that begins during or after puberty. If there were cultural changes that made it more acceptable for natal females to seek transition [27], that would not explain why the reversal of the sex ratio reported for adolescents has not been reported for older adult populations [26]. There are many unanswered questions about potential causes for the recent demographic and clinical changes for gender dysphoric individuals.

Social and peer influences

Parental reports (on social media) of friend clusters exhibiting signs of gender dysphoria [1–4] and increased exposure to social media/internet preceding a child's announcement of a transgender identity [1–2, 9] raise the possibility of social and peer influences. In developmental psychology research, impacts of peers and other social influences on an individual's development are sometimes described using the terms peer contagion and social contagion, respectively. The use of "contagion" in this context is distinct from the term's use in the study of infectious disease, and furthermore its use as an established academic concept throughout this article is not meant in any way to characterize the developmental process, outcome, or behavior as a disease or disease-like state, or to convey any value judgement. Social contagion [29] is the spread of affect or behaviors through a population. Peer contagion, in particular, is the process where an individual and peer mutually influence each other in a way that promotes emotions and behaviors that can potentially have negative effects on their development [30]. Peer contagion has been associated with depressive symptoms, disordered eating, aggression, bullying, and drug use [30–31]. Internalizing symptoms such as depression can be spread via the mechanisms of co-rumination, which entails the repetitive discussion of problems, excessive reassurance seeking (ERS), and negative feedback [30, 32–34]. Deviancy training, which was first described for rule breaking, delinquency, and aggression, is the process whereby attitudes and behaviors associated with problem behaviors are promoted with positive reinforcement by peers [35, 36].

Peer contagion has been shown to be a factor in several aspects of eating disorders. There are examples in the eating disorder and anorexia nervosa literature of how both internalizing symptoms and behaviors have been shared and spread via peer influences [37–41] which may have relevance to considerations of a rapid onset of gender dysphoria occurring in AYAs. Friendship cliques can set the norms for preoccupation with one's body, one's body image,

and techniques for weight loss, and can predict an individual's body image concerns and eating behaviors [37–39]. Peer influence is intensified in inpatient and outpatient treatment settings for patients with anorexia and counter-therapeutic subcultures that actively promote the beliefs and behaviors of anorexia nervosa have been observed [39–41]. In these settings, there is a group dynamic where the “best” anorexics (those who are thinnest, most resistant to gaining weight, and who have experienced the most medical complications from their disease) are admired, validated, and seen as authentic while the patients who want to recover from anorexia and cooperate with medical treatment are maligned, ridiculed, and marginalized [39–41]. Additionally, behaviors associated with deceiving parents and doctors about eating and weight loss, referred to as the “anorexic tricks,” are shared by patients in a manner akin to deviancy training [39–41]. Online environments provide ample opportunity for excessive reassurance seeking, co-rumination, positive and negative feedback, and deviancy training from peers who subscribe to unhealthy, self-harming behaviors. The pro-eating disorder sites provide motivation for extreme weight loss (sometimes calling the motivational content “thin-spiration”)[42–44]. Such sites promote validation of eating disorder as an identity, and offer “tips and tricks” for weight loss and for deceiving parents and doctors so that individuals may continue their weight-loss activities [42–44]. If similar mechanisms are at work in the context of gender dysphoria, this greatly complicates the evaluation and treatment of impacted AYAs.

In the past decade, there has been an increase in visibility, social media, and user-generated online content about transgender issues and transition [45], which may act as a double-edged sword. On the one hand, an increase in visibility has given a voice to individuals who would have been under-diagnosed and undertreated in the past [45]. On the other hand, it is plausible that online content may encourage vulnerable individuals to believe that nonspecific symptoms and vague feelings should be interpreted as gender dysphoria stemming from a transgender condition. Recently, leading international academic and clinical commentators have raised the question about the role of social media and online content in the development of gender dysphoria [46]. Concern has been raised that adolescents may come to believe that transition is the only solution to their individual situations, that exposure to internet content that is uncritically positive about transition may intensify these beliefs, and that those teens may pressure doctors for immediate medical treatment [25]. There are many examples on popular sites such as Reddit (www.reddit.com with subreddit ask/r/transgender) and Tumblr (www.tumblr.com) where online advice promotes the idea that nonspecific symptoms should be considered to be gender dysphoria, conveys an urgency to transition, and instructs individuals how to deceive parents, doctors, and therapists to obtain hormones quickly [47]. Fig 1 includes examples of online advice from Reddit and Tumblr.

Purpose

Rapid presentations of adolescent-onset gender dysphoria occurring in clusters of pre-existing friend groups are not consistent with current knowledge about gender dysphoria and have not been described in the scientific literature to date [1–8]. The purpose of this descriptive, exploratory research is to (1) collect data about parents' observations, experiences, and perspectives about their AYA children showing signs of a rapid onset of gender dysphoria that began during or after puberty, and (2) develop hypotheses about factors that may contribute to the onset and/or expression of gender dysphoria among this demographic group.

Materials and methods

The Icahn School of Medicine at Mount Sinai, Program for the Protection of Human Subjects provided approval of research for this project (HS#: 16–00744).

Table 1. Demographic and other baseline characteristics of parent respondents.

Characteristics of Parent-respondents		n	%
Sex		254	
	Female	233	91.7
	Male	21	8.3
Age (y)		254	
	18–29	3	1.2
	30–44	74	29.1
	45–60	168	66.1
	>60	9	3.5
Race/Ethnicity*		255	
	White	233	91.4
	Other**	22	8.6
Country of Residence		254	
	US	182	71.7
	UK	39	15.4
	Canada	17	6.7
	Other	16	6.3
Education		254	
	Bachelor's degree	96	37.8
	Graduate degree	84	33.1
	Some college or Associates degree	63	24.8
	HS grad or GED	10	3.9
	<High School	1	0.4
Parent attitude on allowing gay and lesbian couples to marry legally		256	
	Favor	220	85.9
	Oppose	19	7.4
	Don't know	17	6.6
Parent belief that transgender people deserve the same rights and protections as others		255	
	Yes	225	88.2
	No	8	3.1
	Don't know	20	7.8
	Other	2	0.8

* may select more than one answer.

** declining order includes: Other, Multiracial, Asian, Hispanic.

<https://doi.org/10.1371/journal.pone.0202330.t001>

and took 30–60 minutes to complete. Participants completed the survey at a time and place of their own choosing. Data were collected anonymously and stored securely with Survey Monkey.

Participation in this study was voluntary and its purpose was clearly described in the recruitment information. Electronic consent was obtained. Participants had the option to withdraw consent at any time prior to submitting responses. Inclusion criteria were (1) completion of a survey with parental response that the child had a sudden or rapid onset of gender dysphoria; and (2) parental indication that the child's gender dysphoria began during or after puberty. There was logic embedded in the survey that disqualified surveys that answered “no” (or skipped the question) about whether the child had a sudden or rapid onset of gender dysphoria and 23 surveys were disqualified prior to completion (20 “no” answers and 3 skipped

Table 2. Demographic and other baseline characteristics of AYAs.

Characteristics of AYAs		n	%
AYA sex at birth (natal sex)		256	
	Female	212	82.8
	Male	44	17.2
AYA average current age (range of ages)	16.4 (11–27)	256	
Academic diagnoses		253	
	Gifted	120	47.4
	Learning Disability	11	4.3
	Both	27	10.7
	Neither	95	37.5
Natal female expressed sexual orientation before announcement*		212	
	Asexual	18	8.5
	Bisexual or Pansexual	78	36.8
	Gay or Lesbian	58	27.4
	Straight (Heterosexual)	75	35.4
	Did not express	57	26.9
Natal male expressed sexual orientation before announcement*		44	
	Asexual	4	9.1
	Bisexual or Pansexual	5	11.4
	Gay	5	11.4
	Straight (Heterosexual)	25	56.8
	Did not express	11	25.0
Gender dysphoria began		256	
	During puberty	125	48.8
	After puberty	131	51.2
Along with a rapid onset of GD, the AYA also:		256	
	Belonged to a friend group where one or multiple friends became transgender-identified during a similar timeframe	55	21.5
	Had an increase in social media/internet use	51	19.9
	Both of the above	116	45.3
	Neither	13	5.1
	Don't know	21	8.2

* may select more than one answer.

<https://doi.org/10.1371/journal.pone.0202330.t002>

answers). After cleaning the data for the 274 completed surveys, 8 surveys were excluded for not having a sudden or rapid onset of gender dysphoria and 10 surveys were excluded for not having gender dysphoria that began during or after puberty, which left 256 completed surveys for inclusion. As the survey was voluntary there was no refusal or dropout rate.

Recruitment sites

There were four sites known to post recruitment information about the research study. The first three were posted due to direct communication with the moderators of the sites. The fourth site posted recruitment information secondary to the snowball sampling technique. The following descriptions provide details about these sites.

4thwavenow

4thwavenow was created in 2015. The site, as seen in digitally archived screenshots from 2015 and 2016, stated that it is a “safe place for gender-skeptical parents and their allies”, offered support for parents, and expressed concern about the rush to diagnose young people as transgender and the rush to proceed to medical treatment for them [2, 48]. By June 2016, the site had expanded to include the writing of several parents, “formerly trans-identified people, and people with professional expertise and experience with young people questioning their gender identity” [9]. The perspective of this site might be described as cautious about medical and surgical transition overall—specifically with a cautious or negative view of medical and surgical interventions for children, adolescents, and young adults and an accepting view that mature adults can make their own decisions about transition [2, 9].

Transgendertrend

Transgendertrend was founded in November 2015. The digitally archived screenshots from November 2015 and July 2016 “Who Are We?” section include the following description, “We are an international group of parents based mainly in the UK, US and Canada, who are concerned about the current trend to diagnose ‘gender non-conforming’ children as transgender. We reject current conservative, reactionary, religious-fundamentalist views about sexuality. We come from diverse backgrounds, some with expertise in child development and psychology, some who were themselves extreme gender non-conforming children and adolescents, some whose own children have self-diagnosed as ‘trans’ and some who know supportive trans adults who are also questioning recent theories of ‘transgenderism’” [49]. In July of 2016, there was additional text added, expressing concern about legislation regarding public bathrooms and changing rooms [50].

Youth trans critical professionals

Youth Trans Critical Professionals was created in March 2016. The digitally archived screenshot from the April 2016 “About” section stated the following: “This website is a community of professionals “thinking critically about the youth transgender movement. We are psychologists, social workers, doctors, medical ethicists, and academics. We tend to be left-leaning, open-minded, and pro-gay rights. However, we are concerned about the current trend to quickly diagnose and affirm young people as transgender, often setting them down a path toward medical transition. Our concern is with medical transition for children and youth. We feel that unnecessary surgeries and/or hormonal treatments which have not been proven safe in the long-term represent significant risks for young people” [51].

Parents of transgender children

Parents of Transgender Children is a private Facebook group with more than 8,000 members [52]. The current “About” section states that requests to join the group “will be denied if you are not the parent (or immediate caregiver or family member) of a transgender, gender-fluid, gender-questioning, agender, or other gender-nonconforming child (of any age); or if you are uncooperative during screening” and that the “group is comprised of parents and parenting figures, as well as a select group of advocates INVITED by the admin[istrative] staff to assist & help us with understanding legal and other concerns” [52]. Although the parent discussions and comments are not viewable to non-members [52], this group is perceived to be pro -gender-affirming. The Parents of Transgender Children Facebook group is considered to be a site to find parents who are supportive of their child’s gender identity [53], and it is listed as a

resource in a gender affirming parenting guide [54] and by gender affirming organizations [55–56].

Measures

Basic demographic and baseline characteristics

Basic demographic and baseline characteristic questions, including parental attitudes about LGBT rights, were included. Parents were asked about their children's mental health disorders and neurodevelopmental disabilities that were diagnosed before their child's onset of gender dysphoria as well as during and after. The question, "Has your child been formally identified as academically gifted, learning disabled, both, neither?" was used as a proxy to estimate rates of academic giftedness and learning disabilities. Questions about trauma and non-suicidal self-injury were also included as were questions about social difficulties described in a previous research study about gender dysphoric adolescents [13].

DSM-5 diagnostic criteria for gender dysphoria in children

The DSM 5 criteria for gender dysphoria in children consist of eight indicators of gender dysphoria [57]. To meet criteria for diagnosis, a child must manifest at least six out of eight indicators including the one designated A1, "A strong desire to be the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender)." Three of the indicators (A1, A7, and A8) refer to desires or dislikes of the child. Five of the indicators (A2–A6) are readily observable behaviors and preferences such as a strong preference or strong resistance to wearing certain kinds of clothing; a strong preference or strong rejection of specific toys, games and activities; and a strong preference for playmates of the other gender [57]. The eight indicators were simplified for language and parents were asked to note which, if any, their child had exhibited prior to puberty. The requirement of six-month duration of symptoms was not included.

DSM-5 diagnostic criteria for gender dysphoria in adolescents and adults

The DSM-5 criteria for gender dysphoria in adolescents and adults consist of six indicators of gender dysphoria [57]. To meet criteria for diagnosis, an adolescent or adult must manifest at least two of the six indicators. The six indicators were simplified for language, the first indicator was adjusted for a parent to answer about their child, and parents were asked to note which, if any, their child was expressing currently. The requirement of six-month duration of symptoms was not included.

Exposure to friend groups and social media/internet content

Survey questions were developed to describe AYA friend groups, including number of friends that became transgender-identified in a similar time period as the AYA, peer group dynamics and behaviors, and exposure to specific types of social media/internet content and messages that have been observed on sites popular with teens, such as Reddit and Tumblr.

Behaviors, outcomes, clinical interactions

Survey questions were developed to specifically quantify adolescent behaviors that had been described by parents in online discussions and observed elsewhere. Participants were asked to describe outcomes such as their child's mental well-being and parent-child relationship since becoming transgender-identified. Parents were also asked about experiences with clinicians and their children's disposition regarding steps taken for transition and duration of

transgender-identification both for children who were still transgender-identified and for children who were no longer transgender-identified.

Coping with strong or negative emotions

Two questions about the AYAs' ability to cope with negative and strong emotions were included. One question was "How does your child handle strong emotions? (please select the best answer)." Offered answers were "My child is overwhelmed by strong emotions and goes to great lengths to avoid feeling them," "My child is overwhelmed by strong emotions and tries to avoid feeling them," "My child neither avoids nor seeks out strong emotions," "My child tries to seek out situations in order to feel strong emotions," "My child goes to great lengths to seek out situations in order to feel strong emotions," "None of the above," "I don't know." The other question was "How would you rate your child's ability to deal with their negative emotions and channel them into something productive?" An example was given regarding dealing with a low test grade by studying harder for the next test (excellent) or by ignoring it, throwing a tantrum, blaming the teacher or distracting themselves with computer games, alcohol, drugs, etc. (extremely poor). Offered answers were: excellent, good, fair, poor, extremely poor, and I don't know.

Data analysis

Statistical analyses of quantitative data were performed using Excel and custom shell scripts (Unix). Quantitative findings are presented as frequencies, percentages, ranges, means and/or medians. ANOVAs, chi-squared, and t-tests comparisons were used where appropriate using publicly available calculators and $p < 0.05$ was considered significant. Qualitative data were obtained from open text answers to questions that allowed participants to provide additional information or comments. The types of comments and descriptions were categorized, tallied, and reported numerically. A grounded theory approach was selected as the analytic strategy of choice for handling the qualitative responses because it allowed the researcher to assemble the data in accordance with the salient points the respondents were making without forcing the data into a preconceived theoretical framework of the researcher's own choosing [58]. Illustrative respondent quotes and summaries from the qualitative data are used to illustrate the quantitative results and to provide relevant examples. Two questions were targeted for full qualitative analysis of themes (one question on friend group behaviors and one on clinician interactions). For these questions, a second reviewer with expertise in qualitative methods was engaged (MM). Both the author (LL) and reviewer (MM) independently analyzed the content of the open text answers and identified major themes. Discrepancies were resolved with collaborative discussion and themes were explored and refined until agreement was reached for the final lists of themes. Representative quotes for each theme were selected by LL, reviewed by MM, and agreement was reached.

Results

Baseline characteristics

Baseline characteristics (Table 1) included that the vast majority of parents favored gay and lesbian couples' right to legally marry (85.9%) and believed that transgender individuals deserve the same rights and protections as other individuals in their country (88.2%). Along with the sudden or rapid onset of gender dysphoria, the AYAs belonged to a friend group where one or multiple friends became gender dysphoric and came out as transgender during a similar time as they did (21.5%), exhibited an increase in their social media/internet use (19.9%), both

(45.3%), neither (5.1%), and don't know (8.2%) (Table 2). For comparisons, the first three categories will be combined and called "social influence" (86.7%) and the last two combined as "no social influence" (13.3%). Nearly half (47.4%) of the AYAs had been formally diagnosed as academically gifted, 4.3% had a learning disability, 10.7% were both gifted and learning disabled, and 37.5% were neither. Sexual orientation as expressed by the AYA prior to transgender-identification is listed separately for natal females and for natal males (Table 2). Overall, 41% of the AYAs expressed a non-heterosexual sexual orientation prior to disclosing a transgender-identification.

It is important to note that none of the AYAs described in this study would have met diagnostic criteria for gender dysphoria in childhood (Table 3). In fact, the vast majority (80.4%) had zero indicators from the DSM-5 diagnostic criteria for childhood gender dysphoria with 12.2% possessing one indicator, 3.5% with two indicators, and 2.4% with three indicators. Breaking down these results, for readily observable indicators (A2-6), 83.5% of AYAs had zero indicators, 10.2% had one indicator, 3.9% had two indicators, and 1.2% had three indicators. For the desire/dislike indicators (A1, A7, A8), which a parent would have knowledge of if the child expressed them verbally, but might be unaware if a child did not, 95.7% had zero indicators and 3.5% had one indicator. Parents responded to the question about which, if any, of the indicators of the DSM criteria for adolescent and adult gender dysphoria their child was

Table 3. DSM 5 Indicators for gender dysphoria.

Characteristics		n	%
AYAs who would have met diagnostic criteria for gender dysphoria in childhood		0	0
Number of DSM 5 indicators for gender dysphoria in children exhibited prior to puberty		255	
	Zero indicators	205	80.4
	One indicator	31	12.2
	Two indicators	9	3.5
	Three indicators	6	2.4
	Four indicators	3	1.2
Desire/Dislike Indicators (A1, A7, or A8)		255	
	Zero indicators	244	95.7
	One indicators	9	3.5
	Two indicators	0	0
	Three indicators	1	0.4
Readily observable indicators (A2-A6)		254	
	Zero indicators	212	83.5
	One indicator	26	10.2
	Two indicators	10	3.9
	Three indicators	3	1.2
	Four indicators	3	1.2
Average number of DSM 5 indicators for adolescent and adult gender dysphoria that the AYA is experiencing currently (range)			
	3.5 (range 0–6)	247	
AYAs currently experiencing two or more indicators of gender dysphoria for adolescents and adults		250	
	Yes	208	83.2
	No	40	16.0
	Don't know	2	0.8

<https://doi.org/10.1371/journal.pone.0202330.t003>

experiencing currently. The average number of positive current indicators was 3.5 (range 0–6) and 83.2% of the AYA sample was currently experiencing two or more indicators. Thus, while the focal AYAs did not experience childhood gender dysphoria, the majority of those who were the focus of this study were indeed gender dysphoric at the time of the survey completion.

The AYAs who were the focus of this study had many comorbidities and vulnerabilities pre-dating the onset of their gender dysphoria, including psychiatric disorders, neurodevelopmental disabilities, trauma, non-suicidal self-injury (NSSI), and difficulties coping with strong or negative emotions (Table 4). The majority (62.5%) of AYAs had one or more diagnoses of a psychiatric disorder or neurodevelopmental disability preceding the onset of gender dysphoria (range of the number of pre-existing diagnoses 0–7). Many (48.4%) had experienced a traumatic or stressful event prior to the onset of their gender dysphoria. Open text descriptions of trauma were categorized as “family” (including parental divorce, death of a parent, mental disorder in a sibling or parent), “sex or gender related” (such as rape, attempted rape, sexual harassment, abusive dating relationship, break-up), “social” (such as bullying, social isolation), “moving” (family relocation or change of schools); “psychiatric” (such as psychiatric hospitalization), and medical (such as serious illness or medical hospitalization). Almost half (45.0%) of AYAs were engaging in non-suicidal self-injury (NSSI) behavior before the onset of gender dysphoria. Coping styles for these AYAs included having a poor or extremely poor ability to handle negative emotions productively (58.0%) and being overwhelmed by strong emotions and trying to avoid (or go to great lengths to avoid) experiencing them (61.4%) (Table 4). The majority of respondents (69.4%) answered that their child had social anxiety during adolescence; 44.3% that their child had difficulty interacting with their peers, and 43.1% that their child had a history of being isolated (not associating with their peers outside of school activities).

Announcing a transgender-identification

At the time the AYA announced they were transgender-identified (“came out”), most were living at home with one or both parents (88.3%) and a small number were living at college (6.2%). The average age of announcement of a transgender-identification was 15.2 years of age (range 10–21) (Table 5). Most of the parents (80.9%) answered affirmatively that their child’s announcement of being transgender came “out of the blue without significant prior evidence of gender dysphoria.” Respondents were asked to pinpoint a time when their child seemed not at all gender dysphoric and to estimate the length of time between that point and their child’s announcement of a transgender-identity. Almost a third of respondents (32.4%) noted that their child did not seem gender dysphoric when they made their announcement and 26.0% said the length of time from not seeming gender dysphoric to announcing a transgender identity was between less than a week to three months. The most striking examples of “not seeming at all gender dysphoric” prior to making the announcement included a daughter who loved summers and seemed to love how she looked in a bikini, another daughter who happily wore bikinis and makeup, and another daughter who previously said, “I love my body!”

The majority of respondents (69.2%) believed that their child was using language that they found online when they “came out.” A total of 130 participants provided optional open text responses to this question, and responses fell into the following categories: why they thought the child was using language they found online (51); description of what the child said but didn’t provide a reason that they suspected the child was using language they found online (61); something else about the conversation (8) or the child (7) and don’t know (3). Of the 51 responses describing reasons why respondents thought their child was reproducing language

Table 4. AYA baseline comorbidities and vulnerabilities predating the onset of gender dysphoria.

Characteristics		n	%
Mental disorder or neurodevelopmental disability diagnosed prior to the onset of gender dysphoria*		251	
	Anxiety	117	46.6
	Depression	99	39.4
	Attention Deficit Hyperactivity Disorder (ADHD)	29	11.6
	Obsessive Compulsive Disorder (OCD)	21	8.4
	Autism Spectrum Disorder (ASD)	20	8.0
	Eating Disorder	12	4.8
	Bipolar Disorder	8	3.2
	Psychosis	6	2.4
	None of above	94	37.5
	(Other) Borderline	3	1.2
	(Other) Oppositional Defiant Disorder	2	0.8
Traumatic or stressful experience prior to the onset of gender dysphoria		252	
	Yes	122	48.4
	No	91	36.1
	Don't know	38	15.1
	Other	1	0.4
Types of trauma*		113	
	Family	50	44.2
	Sex/Gender related	34	30.1
	Social	23	20.4
	Moving	20	17.7
	Psychiatric	9	8.0
	Medical	7	6.2
Non-suicidal self-injury (NSSI) before the onset of gender dysphoria		180	
		81	45.0
Ability to handle negative emotions productively		255	
	Excellent/Good	34	13.3
	Fair	70	27.5
	Poor/Extremely Poor	148	58.0
	Don't know	3	1.2
Coping style for dealing with strong emotions		254	
	Overwhelmed by strong emotions and tries to /goes to great lengths to avoid feeling them	156	61.4
	Neither avoids nor seeks out strong emotions	29	11.4
	Tries to/goes to great lengths to seeks out strong emotions	33	13.0
	Don't know	25	9.8
	None of the above	11	4.3
Social vulnerabilities		255	
	During adolescence child had social anxiety	177	69.4
	Child had difficulty interacting with their peers	113	44.3
	History of being isolated (not interacting with peers outside of school activities)	110	43.1
	Child felt excluded by peers throughout most of grade school	93	36.5
	Child had persistent experiences of being bullied before the onset of gender dysphoria	74	29.0

*may select more than one answer.

<https://doi.org/10.1371/journal.pone.0202330.t004>

Table 5. Announcing a transgender-identification.

Characteristics		n	%
Age of AYA when the AYA announced a transgender-identification (range)	15.2 average (10–21)	255	
Living arrangement at announcement		256	
	Living at home with one or both parents	226	88.3
	Living at college or university	16	6.2
	Other	14	5.5
AYA's announcement came from "out of the blue, without significant prior evidence of gender dysphoria"		256	
	Yes	207	80.9
	No	33	12.9
	Other	16	6.2
If a time was pinpointed when the child seemed not at all gender dysphoric, how long between that time and the child's announcement of a transgender-identity?		250	
	Did not seem at all gender dysphoric when they announced and transgender-identity	81	32.4
	Less than a week to 3 months	65	26.0
	4–6 months	31	12.4
	7–9 months	10	4.0
	10–12 months	29	11.6
	More than 12 months	20	8.0
	Don't know	14	5.6
Parent suspects that when the child first announced a transgender-identity, that the child used language that they found online		253	
	Yes	175	69.2
	No	53	20.9
	N/A	25	9.9
Parent thinks their child is correct in their child's belief of being transgender		255	
	Yes	6	2.4
	No	195	76.5
	Don't know	38	14.9
	Other	16	6.3
How soon after the announcement did the AYA ask for transition?		255	
	At the same time	86	33.7
	Between less than one week to one month	33	12.9
	2–5 months after announcement	26	10.2
	6 or more months after announcement	19	7.5
	Other	16	6.3
	N/A	75	29.4
Intention and request for transition*		189	
	AYA told the parent that they want cross-sex hormones	127	67.2
	AYA told the parent that they want to go to a gender therapist/gender clinic	111	58.7
	AYA told the parent that they want surgery	101	53.4
	AYA brought up the issue of suicides in transgender teens as a reason that their parent should agree to treatment	59	31.2

(Continued)

Table 5. (Continued)

Characteristics		n	%
AYA has very high expectation that transitioning will solve their problems in social, academic, occupational, or mental health areas		256	
	Yes	143	55.9
	No	13	5.1
	Don't know	100	39.1
AYA was willing to work on basic mental health before seeking gender treatments		253	
	Yes	111	43.9
	No	71	28.1
	Don't know	30	11.9
	N/A	41	16.2

*may select more than one answer.

<https://doi.org/10.1371/journal.pone.0202330.t005>

they found online, the top two reasons were that it didn't sound like their child's voice (19 respondents) and that the parent later looked online and recognized the same words and phrases that their child used when they announced a transgender identity (14 respondents). The observation that it didn't sound like their child's voice was also expressed as "sounding scripted," like their child was "reading from a script," "wooden," "like a form letter," and that it didn't sound like their child's words. Parents described finding the words their child said to them "verbatim," "word for word," "practically copy and paste," and "identical" in online and other sources. The following quotes capture these top two observations. One parent said, "It seemed different from the way she usually talked—I remember thinking it was like hearing someone who had memorized a lot of definitions for a vocabulary test." Another respondent said, "The email [my child sent to me] read like all of the narratives posted online almost word for word."

The following case summaries were selected to illustrate peer, trauma, and psychiatric contexts that might indicate more complicated clinical pictures.

- A 12-year-old natal female was bullied specifically for going through early puberty and the responding parent wrote "as a result she said she felt fat and hated her breasts." She learned online that hating your breasts is a sign of being transgender. She edited her diary (by crossing out existing text and writing in new text) to make it appear that she has always felt that she is transgender.
- A 14-year-old natal female and three of her natal female friends were taking group lessons together with a very popular coach. The coach came out as transgender, and, within one year, all four students announced they were also transgender.
- A natal female was traumatized by a rape when she was 16 years of age. Before the rape, she was described as a happy girl; after the rape, she became withdrawn and fearful. Several months after the rape, she announced that she was transgender and told her parents that she needed to transition.
- A 21-year-old natal male who had been academically successful at a prestigious university seemed depressed for about six months. Since concluding that he was transgender, he went on to have a marked decline in his social functioning and has become increasingly angry and

hostile to his family. He refuses to move out or look for a job. His entire family, including several members who are very supportive of the transgender community, believe that he is “suffering from a mental disorder which has nothing to do with gender.”

- A 14-year-old natal female and three of her natal female friends are part of a larger friend group that spends much of their time talking about gender and sexuality. The three natal female friends all announced they were trans boys and chose similar masculine names. After spending time with these three friends, the 14-year-old natal female announced that she was also a trans boy.

The majority (76.5%) of the surveyed parents felt that their child was incorrect in their belief of being transgender (Table 5). More than a third (33.7%) of the AYAs asked for medical and/or surgical transition at the same time that they announced they were transgender-identified. Two thirds (67.2%) of the AYAs told their parent that they wanted to take cross-sex hormones; 58.7% that they wanted to see a gender therapist/gender clinic; and 53.4% that they wanted surgery for transition. Almost a third (31.2%) of AYAs brought up the issue of suicides in transgender teens as a reason that their parent should agree to treatment. More than half of the AYAs (55.9%) had very high expectations that transitioning would solve their problems in social, academic, occupational or mental health areas. While 43.9% of AYAs were willing to work on basic mental health before seeking gender treatments, a sizable minority (28.1%) were not willing to work on their basic mental health before seeking gender treatment. At least two parents relayed that their child discontinued psychiatric care and medications for pre-existing mental health conditions once they identified as transgender. One parent, in response to the question about if their child had very high expectations that transitioning would solve their problems elaborated, “Very much so. [She] discontinued anti-depressant quickly, stopped seeing psychiatrist, began seeing gender therapist, stopped healthy eating. [She] stated ‘none of it’ (minding what she ate and taking her Rx) ‘mattered anymore.’ This was her cure, in her opinion.”

Friend-group exposure

The adolescent and young adult children were, on average, 14.4 years old when their first friend became transgender-identified (Table 6). Within friendship groups, the average number of individuals who became transgender-identified was 3.5 per group. In 36.8% of the friend groups described, the majority of individuals in the group became transgender-identified. The order that the focal AYA “came out” compared to the rest of their friendship group was calculated from the 119 participants who provided the number of friends coming out both before and after their child and 74.8% of the AYAs were first, second or third of their group. Parents described intense group dynamics where friend groups praised and supported people who were transgender-identified and ridiculed and maligned non-transgender people. Where popularity status and activities were known, 60.7% of the AYAs experienced an increased popularity within their friend group when they announced a transgender-identification and 60.0% of the friend groups were known to mock people who were not transgender or LGBTIA (lesbian, gay, bisexual, transgender, intersex, or asexual).

For the question about popularity changes when the child came out as having a transgender-identification, 79 participants provided optional open text responses which were categorized as: descriptions of the responses the child received (39); descriptions of the friends (14); description that the child did not “come out” to friends (8); not sure (9); speculation on how the child felt from the response (4), other (5). Of the 39 descriptions of responses, 19 of these responses referred to positive benefits the child received after coming out including positive attention, compliments, increased status, increased popularity, increased numbers of online

Table 6. Friend group exposure.

Characteristics		n	%
The AYA has been part of a friend group where one or more friends has come out as transgender around a similar timeframe as they did		254	
	Yes	176	69.3
	No	47	18.5
	Don't know	31	12.2
Age of AYA when their first friend became transgender-identified (range)	14.4 average (11–21)	174	
Number of friends from the friendship group who became gender dysphoric average (range)	3.5 average (2–10)	138	
Where numbers known, friend groups where the MAJORITY of the friends in the friendship group became transgender-identified		125	
	Yes	46	36.8
	No	79	63.2
Order of the AYAs “coming out” compared to the others in the friendship group		119	
	First in the friendship group	4	3.4
	Second in the friendship group	52	43.7
	Third in the friendship group	33	27.7
	Fourth in the friendship group	18	15.1
	Fifth in the friendship group	5	4.2
	Sixth or Seventh in the friendship group	6	5.0
Where popularity status known, change in popularity within friend group when AYA announced their transgender-identification		178	
	Increased popularity	108	60.7
	Decreased popularity	11	6.2
	Unchanged popularity	59	33.1
Where friend group activities known, friend group known to mock people who are not transgender/LGBT		145	
	Yes	87	60.0
	No	58	40.0

<https://doi.org/10.1371/journal.pone.0202330.t006>

followers, and improved protection from ongoing bullying. The following are quotes from parents about the perceived benefits of transgender-identification afforded to their child. One respondent said, “Great increase in popularity among the student body at large. Being trans is a gold star in the eyes of other teens.” Another respondent explained, “not so much ‘popularity’ increasing as ‘status’. . .also she became untouchable in terms of bullying in school as teachers who ignored homophobic bullying . . .are now all at pains to be hot on the heels of any trans bullying.” Seven respondents described a mixed response where the child’s popularity increased with some friends and decreased with others. Seven respondents described a neutral response such as “All of the friends seemed extremely accepting.” Two described a temporary increase in their child’s popularity: “There was an immediate rush of support when he came out. Those same friends have dwindled to nothing as he rarely speaks to any of them now.” Another described the loss of friends. And two parents described that “coming out” prevented the loss of friends explained by one respondent as “to not be trans one would not have been included in his group.”

Several AYAs expressed significant concern about the potential repercussions from their friend group when they concluded that they were not transgender after all. There were two unrelated cases with similar trajectories where the AYAs spent some significant time in a different setting, away from their usual friend group, without access to the internet. Parents described that these AYAs made new friendships, became romantically involved with another person, and during their time away concluded that they were not transgender. In both cases, the adolescents, rather than face their school friends, asked to move and transfer to different high schools. One parent said that their child, "...couldn't face the stigma of going back to school and being branded as a fake or phony. ... Or worse, a traitor or some kind of betrayer. ... [and] asked us if we could move." In the other case, the parent relayed that their child thought none of the original friends would understand and expressed a strong desire to "...get out of the culture that 'if you are cis, then you are bad or oppressive or clueless.'" Both families were able to relocate and both respondents reported that their teens have thrived in their new environments and new schools. One respondent described that their child expressed relief that medical transition was never started and felt there would have been pressure to move forward had the family not moved away from the peer group.

Qualitative analysis

The open-ended responses from the question about whether the AYAs and friends mocked, teased, or made fun of individuals who weren't transgender or LGBTIA was selected for additional qualitative analysis. Seven major themes were identified from the comments provided by participants and are described, with representative supporting quotes.

Theme: Groups targeted. The groups targeted for mocking by the friend groups are often heterosexual (straight) people and non-transgender people (called "cis" or "cisgender"). Sometimes animosity was also directed towards males, white people, gay and lesbian (non-transgender) people, aromantic and asexual people, and "terfs". One participant explained, "They are constantly putting down straight, white people for being privileged, dumb and boring." Another participant elaborated, "In general, cis-gendered people are considered evil and unsupportive, regardless of their actual views on the topic. To be heterosexual, comfortable with the gender you were assigned at birth, and non-minority places you in the 'most evil' of categories with this group of friends. Statement of opinions by the evil cis-gendered population are considered phobic and discriminatory and are generally discounted as unenlightened."

Theme: Individuals targeted. In addition to targeting specific groups of people for mocking, the AYAs and their friend groups also directed mocking towards individuals in the AYAs' lives such as parents, grandparents, siblings, peers, allies, and teachers. The following quotes describe individuals targeted. One participant said, "They call kids who are not LGBT dumb and cis. And the mocking has been aimed at my transgender-identified child's [sibling]." Another parent said, "They definitely made fun of parents and teachers who did not agree with them." And a third participant said, "...they were asked to leave [a school-based LGBT club] because they were not queer enough [as straight and bisexual allies]. [One of them] was [then] bullied, harassed and denounced online."

Theme: Behaviors occurred both in person and in online settings. Parents observed the behaviors both in-person and in online settings, and specifically mentioned seeing posts and conversations on Tumblr, Twitter, Facebook, and Instagram. One participant said, "They speak with derision about how cis-gendered people do not understand them and are so close-minded." Another participant said, "I hear them disparaging heterosexuality, marriage and nuclear families." Another participant said, "On my daughter's Tumblr blog, she has liked or favorited or re-posted disparaging comments about those who aren't transgender or seem to

misunderstand the transgender identity.” And another parent reported, “Her real life friends don’t [mock non-LGBT people] but online they are always swapping jokes and comments about cisgender and about transphobia.”

Theme: Examples of behaviors. Participants gave many examples of the observed behaviors that were mocking towards non-transgender people and non-LGB people. One participant said, “My daughter called me a ‘breeder’ and says things in a mocking ‘straight person voice’. Her friends egg her on when she does this.” Another parent offered, “If they aren’t mocking ‘cis’ people, they are playing pronoun police and mocking people who can’t get the pronouns correct.” Another participant said, “New vocabulary includes ‘cis-stupid’ and ‘cis-stupidity.’” And a fourth participant described, “They assume anyone that is critical about being transgender (even just asking questions) is either ignorant or filled with hate.”

Theme: Emphasizing victimhood. Participants described that their children and friend group seemed to focus on feeling as though they were victims. One participant described, “They seem to wear any problems they may have, real or perceived like badges of honor. . . I feel like they want to believe they are oppressed & have really ‘been through life’, when they have little life experience.” Another participant said, “. . . there is a lot of feeling like a victim [and being] part of a victimized club.” Another parent said “But all talk is very ‘victim’ centered”. And finally, another said, “They passionately decry ‘Straight Privilege’ and ‘White Male Privilege’—while emphasizing their own ‘Victimhood.’”

Theme: Consequences of behaviors. A few participants describe that because of their child’s behavior, there were consequences, including making it difficult for one child to return to her school and the following description from another parent, “Most relatives have blocked her on [social media] over constant jokes regarding cis and straight people.”

Theme: Fueling the behaviors. In some cases, parents describe a synergistic effect of kids encouraging other kids to persist in the behavior as was described in a previous quote, “Her friends egg her on when she does this” as well as the following, “Lots of discussion revolving around how their teachers ‘discriminate’ or are ‘mean’ to them based on their declared LGBTIA identity, and they get each other riled up convincing each other of their persecution by these perceived wrongs . . . privately they mock our intolerance, and in person act upon these false beliefs by treating us as people out to get them. . .”

Internet/social media exposure

In the time period just before announcing that they were transgender, 63.5% of AYAs exhibited an increase in their internet/social media (Table 7). To assess AYA exposure to existing online content, parents were asked what kind of advice their child received from someone/people online. AYAs had received online advice including how to tell if they were transgender (54.2%); the reasons that they should transition right away (34.7%); that if their parents did not agree for them to take hormones that the parents were “abusive” and “transphobic” (34.3%); that if they waited to transition they would regret it (29.1%); what to say and what not to say to a doctor or therapist in order to convince them to provide hormones (22.3%); that if their parents were reluctant to take them for hormones that they should use the “suicide narrative” (telling the parents that there is a high rate of suicide in transgender teens) to convince them (20.7%); and that it is acceptable to lie or withhold information about one’s medical or psychological history from a doctor or therapist in order to get hormones/get hormones faster (17.5%). Two respondents, in answers to other questions, described that their children later told them what they learned from online discussion lists and sites. One parent reported, “He has told us recently that he was on a bunch of discussion lists and learned tips there. Places where teens and other trans people swap info. Like to use [certain, specific] words [with] the

Table 7. Internet/Social media exposures.

		n	%
AYAs internet/social media use just prior to announcement		255	
	Increased social media/internet use	162	63.5
	Decreased social media/internet use	3	1.2
	Unchanged social media/internet use	49	19.2
	Don't know	41	16.1
AYA exposure to internet content/advice*		251	
	How to tell if they are transgender	136	54.2
	The reasons that they should transition right away	87	34.7
	That if their parents did not agree to take them for hormones, that the parents are "abusive" and "transphobic"	86	34.3
	That if they waited to transition they would regret it	73	29.1
	That if they didn't transition immediately they would never be happy	72	28.7
	How to order physical items (binders, packers, etc) without parents finding out	67	26.7
	What to say and what NOT to say to a doctor or therapist in order to convince them to provide hormones	56	22.3
	That if their parents are reluctant to take them for hormones, that they should use the "suicide narrative" to convince them (telling the parents that there is a high rate of suicide in transgender teens.)	52	20.7
	Medical advice about the risks and benefits of hormones	55	21.9
	Medical advice about the risks and benefits of surgery	47	18.7
	That it is acceptable to lie to or withhold information about one's medical or psychological history from a doctor or therapist in order to get hormones/get hormones faster	44	17.5
	How to hide physical items from parents	40	15.9
	How to hide or make excuses for physical changes	26	10.4
	How to get money from others online in order to pay for medications, etc	25	10.0
	How to get hormones from online sources	24	9.6
	How to hide hormones from parents	21	8.4
	I don't know if my child received online advice about these topics	127	50.6

*may select more than one answer.

<https://doi.org/10.1371/journal.pone.0202330.t007>

therapist when describing your GD, because [they are] code for potentially suicidal and will get you a diagnosis and Rx for hormones." Another parent disclosed, "The threat of suicide was huge leverage. What do you say to that? It's hard to have a steady hand and say no to medical transition when the other option is dead kid. She learned things to say that would push our buttons and get what she wanted and she has told us now that she learned that from trans discussion sites."

Parents identified the sources they thought were most influential for their child becoming gender dysphoric. The most frequently answered influences were: YouTube transition videos (63.6%); Tumblr (61.7%); a group of friends they know in person (44.5%); a community/group of people that they met online (42.9%); a person they know in-person (not online) 41.7%. In contrast to the majority of responses, two participants commented that they didn't think the

sources influenced their child to become gender dysphoric, rather they gave their child a name for their feelings or gave the child confidence to come out. The following quotes illustrate the dominant quantitative findings. One parent wrote, “We believe the biggest influence was the online pro-transition blogs and youtube videos. We feel she was highly influenced by the ‘if you are even questioning your gender-you are probably transgender’ philosophy. . .In the ‘real world’ her friends, other trans peers, and newfound popularity were additional areas of reinforcement.” Another respondent described the online influence as part of a different question, “I believe my child experienced what many kids experience on the cusp of puberty—uncomfortableness!—but there was an online world at the ready to tell her that those very normal feelings meant she’s in the wrong body.”

Mental well-being, mental health, and behaviors

The trajectories of the AYAs were not consistent with the narrative of discovering one’s authentic self and then thriving. Specifically, parents reported that, after “coming out,” their children exhibited a worsening of their mental well-being. Additionally, parents noted worsening of the parent-child relationship and observed that their children had narrowed their interests (Table 8). Although small numbers of AYAs had improvement in mental well-being (12.6%), parent-child relationship (7.4%), grades/academic performance (6.4%), and had broadened their interests and hobbies (5.1%); the most common outcomes were worsened mental well-being (47.2%); worsened parent child relationship (57.3%); unchanged or mixed grades/academic performance (59.1%); and a narrowed range of interests and hobbies

Table 8. Outcomes and behaviors.

Characteristics	n	%
AYA mental well-being since announcement	254	
Worse	120	47.2
Better	32	12.6
Unchanged or mixed	101	39.8
Don’t know	1	0.4
Parent-child relationship since announcement	253	
Worse	145	57.3
Better	18	7.4
Unchanged or mixed	89	35.2
Don’t know	1	0.4
Grades/academic performance	220	
Worse	76	34.5
Better	14	6.4
Unchanged/mixed	130	59.1
Range of interests and hobbies	255	
Much broader	2	0.8
Somewhat broader	11	4.3
Unchanged	93	36.5
Somewhat narrower	64	25.1
Much narrower	56	22.0
There are very few topics outside of transgender issues that my child is interested in	28	11.0
Don/t know	1	0.4

<https://doi.org/10.1371/journal.pone.0202330.t008>

(58.1%). One parent describing her child's trajectory offered, "After announcing she was transgender, my daughter's depression increased significantly. She became more withdrawn. She stopped participating in activities which she previously enjoyed, stopped participating in family activities, and significantly decreased her interaction with friends. Her symptoms became so severe that she was placed on medication by her physician." Table 9 describes cumulative rates of mental illness and neurodevelopmental disability at the time of survey.

A total of 63.8% of the parents have been called "transphobic" or "bigoted" by their children for one or more reasons, the most common being for: disagreeing with the child about the child's self-assessment of being transgender (51.2%); recommending that the child take more time to figure out if their feelings of gender dysphoria persist or go away (44.6%); expressing concerns for the child's future if they take hormones and/or have surgery (40.4%); calling their child by the pronouns they used to use (37.9%); telling the child they thought that hormones or surgery would not help them (37.5%); recommending that their child work on other mental health issues first to determine if they are the cause of the dysphoria (33.3%); calling the child by their birth name (33.3%); or recommending a comprehensive mental health evaluation before starting hormones and/or surgery (20.8%) (Table 10). There were eight cases of estrangement. Estrangement was child-initiated in six cases where the child ran away, moved out, or otherwise refused contact with parent. There were two cases where the estrangement was initiated by the parent because the AYA's outbursts were affecting younger siblings or there was a threat of violence made by the AYA to the parent.

AYAs are reported to have exhibited one or more of the following behaviors: expressed distrust of information about gender dysphoria and transgenderism coming from mainstream doctors and psychologists (51.8%); tried to isolate themselves from their family (49.4%); expressed that they only trust information about gender dysphoria and transgenderism that comes from transgender websites and/or transgender people and sources (46.6%); lost interest in activities where participants aren't predominantly transgender or LGBTIA (32.3%); stopped spending time with friends who were not transgender (25.1%); expressed distrust of people who were not transgender (22.7%) (Table 10). Many AYAs have also: withdrawn from their family (45.0%); told other people or posted on social media that their parent is "transphobic," "abusive," or "toxic" because the parent does not agree with child's self-assessment of being transgender (43.0%); refused to speak to their parent (28.5%), defended the practice of lying to or withholding information from therapists or doctors in order to obtain hormones for transition more quickly (16.5%); tried to run away (6.8%). The behaviors and outcomes listed above

Table 9. AYA Cumulative mental disorder and neurodevelopmental disability diagnoses.

Characteristics	n	%
Mental disorder or neurodevelopmental disability	243	
Anxiety	154	63.4
Depression	143	58.8
Attention Deficit Hyperactivity Disorder (ADHD)	36	14.8
Obsessive Compulsive Disorder (OCD)	30	12.3
Autism Spectrum Disorder (ASD)	30	12.3
Eating Disorder	17	7.0
Bipolar Disorder	17	7.0
Psychosis	8	3.3
None of above	52	21.4
(Other) Borderline	7	2.9
(Other) Oppositional Defiant Disorder	2	0.8

<https://doi.org/10.1371/journal.pone.0202330.t009>

Table 10. Additional behaviors.

		n	%
Parents have been called “transphobic” or “bigoted” by their child for the following reasons*		240	
	Disagreeing with their child about the child’s assessment of being transgender	123	51.2
	Recommending that their child take more time to figure out if their feelings of gender dysphoria persist or go away	107	44.6
	Expressing concerns for their child’s future if the child were to take hormones and/or have surgery	97	40.4
	Referring to their child by the pronouns that they used to use before announcement	91	37.9
	Telling their child that they thought hormones/surgery would not help them	90	37.5
	Calling their child by the child’s birth name	80	33.3
	Recommending that their child work on other mental health issues first to determine if they are the cause of their dysphoria	80	33.3
	Recommending therapy for basic mental health issues (not related to gender)	74	30.8
	Recommending a comprehensive evaluation before starting hormones and/or surgery	50	20.8
	None of the above	87	36.2
Distrust and isolating behaviors exhibited by AYAs*		251	
	Expressed distrust of information about gender dysphoria and transgenderism coming from mainstream doctors and psychologists	130	51.8
	Tried to isolate themselves from their family	124	49.4
	Expressed that they ONLY trust information about gender dysphoria and transgenderism that comes from transgender websites and/or transgender people and sources	117	46.6
	Lost interest in activities where participants aren’t predominantly transgender or LGBTIA	81	32.3
	Lost interest in activities that were not related to transgender or LGBTIA issues	65	25.9
	Stopped spending time with friends who are not transgender	63	25.1
	Expressed distrust of people who are not transgender	57	22.7
	Expressed hostility towards people who are not transgender	46	18.3
	None of the above	44	17.5
Other behavior and outcomes for AYAs*		249	
	Withdrawn from family	112	45.0
	Told other people or posted on social media that their parent is “transphobic”, “abusive”, or “toxic” because the parent does not agree with the child’s assessment of being transgender	107	43.0
	Refused to speak to parent	71	28.5
	Defended the practice of lying to or withholding information from therapists or doctors in order to obtain hormones for transition more quickly	41	16.5
	Tried to run away	17	6.8
	Been unable to obtain a job	25	10.0
	Been unable to hold a job	18	7.2
	Dropped out of college	12	4.8
	Dropped out of high school	12	4.8
	Needed to take a leave of absence from college	12	4.8
	Been fired from a job	9	3.6
	Needed a leave of absence from high school	1	0.4
	None of the above	86	34.5
For any of the above, is this a significant change from the child’s baseline behavior?		161	
	Yes	115	71.4
	No	46	28.6

*may select more than one answer.

<https://doi.org/10.1371/journal.pone.0202330.t010>

were considered significant changes from the child's baseline behaviors for 71.4% of respondents checking any of the items.

There was a subset of eight cases where parents described watching their child have declining mental well-being as they became gender dysphoric and transgender-identified and then had improving mental well-being as they dropped or backed away from a transgender-identification. One parent described a marked change in her daughter when she was out of school temporarily. "[Her] routine was disrupted. She spent all day on the internet, and lost her many school friends—her only friends were on-line and members of the trans community. In three months, my daughter announced she is trans, gender dysphoric, wants binders and top surgery, testosterone shots. . .she started self-harming. Now back at school. . .she tweeted that she's so young, isn't sure if she is trans, no longer wants to be referred to by the male name she had chosen. . .Since she has started back at school and is being exposed to a wide variety of people she is WAY happier." Another parent described, "My daughter's insight has improved considerably over the last few years, and she has also outgrown the belief that she is transgender. My daughter actually seemed to be looking for a reason for her depression which is now being successfully treated. . .My daughter is MUCH happier now that she is being treated for her genuine issues. Coming out as trans made her much worse for a while."

There was a subset of 30 cases where the AYAs' transgender-identification occurred in the context of a decline in their ability to function (such as dropping out of high school or college, needing a leave of absence from high school or college, and/or being unable to obtain or hold a job), which parents reported as a significant change from their child's baseline behavior. The declines were substantial as 43.3% of these AYAs had been identified as academically gifted students (some described as top of their class in high school, earning outstanding grades at prestigious universities) before they began to fail their classes, drop out of high school or college, and became unable to hold a job. In most of these cases (76.7%), there was one or more psychiatric diagnosis made at the same time or within the year (60.0%) or within two years (16.7%) of the AYA's new transgender-identification. Of the 23 individuals who had a psychiatric diagnosis made within two years of assuming a transgender-identification, 91.3% (21/23) were diagnosed with depression; 73.9% (17/23) with anxiety; 26.0% (6/23) with bipolar disorder; 17.4% (4/23) with borderline personality disorder; 8.7% (2/23) with psychosis/psychotic episode; and 8.7% (2/23) with an eating disorder.

Clinical encounters

Parents were asked if their child had seen a gender therapist, gone to a gender clinic, or seen a physician for the purpose of beginning transition and 92 respondents (36.2%) answered in the affirmative (Table 11). Many of the respondents clarified that their child had seen a clinician regarding their gender dysphoria for evaluation only. Although participants were not asked directly what kind of provider their child saw, specialties that were mentioned in answers included: general psychologists, pediatricians, family doctors, social workers, gender therapists, and endocrinologists. For parents who knew the content of their child's evaluation, 71.6% reported that the clinician did not explore issues of mental health, previous trauma, or any alternative causes of gender dysphoria before proceeding and 70.0% report that the clinician did not request any medical records before proceeding. Despite all of the AYAs in this study sample having an atypical presentation of gender dysphoria (no gender dysphoria prior to puberty), 23.8% of the parents who knew the content of their child's visit reported that the child was offered prescriptions for puberty blockers and/or cross-sex hormones at the first visit.

One participant described, "For the most part, I was extremely frustrated with providers NOT acknowledging the mental disorder, anxiety, depression, etc before recommending

Table 11. Interactions with clinicians.

		n	%
Did the AYA see a gender therapist, go to a gender clinic or see a physician for the purpose of transition?		254	
	No	151	59.4
	Yes	92	36.2
	Don't know	11	4.3
Did the therapist/physician/clinic staff explore issues of mental health, previous trauma, or any alternative causes of gender dysphoria before proceeding?		100	
	Yes	21	21.0
	No	53	53.0
	Don't know	26	26.0
Did the therapist/physician/clinic staff request any medical records before proceeding?		99	
	Yes	21	21.2
	No	49	49.5
	Don't know	29	29.3
Of parents who knew the content of the visit, did the AYA receive an Rx for puberty blockers and/or cross-sex hormones at their first visit?		80	
	AYA received an Rx for puberty blockers and/or cross-sex hormones at their first visit	17	21.2
	AYA was offered a Rx for puberty blockers and/or cross-sex hormones at their first visit, but AYA or parent declined	2	2.5
	Total number of AYAs who received or were offered an Rx at first visit	19	23.8
	AYAs who did not receive/were not offered an Rx at their first visit	61	76.2
Did AYA misrepresent their history to the doctor or relay their history accurately?		96	
	Parent is reasonably sure or positive that their child misrepresented or omitted parts of their history	64	66.7
	Parent is reasonable sure or positive that their child relayed their history completely and accurately	12	12.5
	Don't know	20	20.8

<https://doi.org/10.1371/journal.pone.0202330.t011>

hormone replacement therapy.” And two participants described how the clinician treating their child’s gender dysphoria refused to speak with the patients’ primary care physicians. One participant said, “When we phoned the clinic, the doctor was hostile to us, told us to mind our own business. Our family doctor tried to reach our son’s new doctor, but the trans doctor refused to speak with her.” Another respondent shared “The pediatrician/‘gender specialist’ did not return calls or emails from the primary care physician who requested to talk with her about my son’s medical history before she saw and treated him. . .she disregarded all historical information provided by the family and primary care physician. . .did not verify any information provided by my. . .son at his first visit even after being provided with multiple other historical sources which differed significantly from his story.”

When asked about whether their child relayed their history completely and accurately to clinicians or whether they misrepresented or omitted parts of their history, of those who knew the content of their child’s visit, 84.2% of the parent respondents were reasonably sure or positive that their child had misrepresented or omitted parts of their history. Twenty-eight participants provided optional open text responses to this question and the responses were categorized into: describing how the parent knew that the child misrepresented their history

(5); the content of what the child misrepresented (6 misrepresenting in general, 4 misrepresenting to the clinician for a total of 10 examples); don't know/not sure (4); expressing certainty (1); and not relevant (8). For the five participants describing how they knew, the reasons included: being present when it happened, reading the report from the gender specialist, being told by their child that the child had misrepresented the truth, and being informed by the child's psychiatrist. One respondent shared, "I have read the report from the gender specialist and it omits all the relevant context painting an almost unrecognizable picture of my son." A second parent simply responded, "I was present." Another respondent relayed about their (natal male) child, "My daughter told me and her mother that the first therapist she saw asked her stereotypical questions. . . She was afraid that if she didn't describe herself as a 'typical girl' she would not be believed." And finally, one respondent wrote, "He has said now that he did [misrepresent his history] and used key words he was advised to say." Ten participants provided 13 examples of the content of misrepresentations and of these, 6 examples could have been easily verified to be false (claiming to be under the care of a psychiatrist, claiming to be on medication to treat a psychiatric condition, how one was doing academically, and claiming a childhood history of having playmates of one sex when the opposite was observed, and claiming strong childhood preferences for specific toys and clothing that is the opposite of what multiple individuals observed). Three of the content examples would have been challenging to verify as false including: how one was feeling as a child, how one was feeling when a picture was taken, and whether one was from an abusive home. And four of the content examples did not provide enough information to determine if they would be easy or challenging to verify as false, such as "My child distorts her history and our family life on a regular basis," and "He has created an entire narrative that just isn't true."

In addition to the previously mentioned case where the child literally rewrote her history by editing her diary, there were seven respondents who conveyed a process where their child was constantly rewriting their personal history to make it consistent with the idea that they always were transgender and/or had created a childhood history that was not what others had observed. It is unclear whether this process was deliberate or if the individuals were unaware of their actions. The following are quotes describing this phenomenon. One parent said, ". . . she is actively rewriting her personal history to support the idea that she was always trans." Another respondent added, ". . . my daughter denies events I recollect from her childhood and puberty that contradicts her narrative of 'always knowing she was a boy.'" Another respondent offered, "He is rewriting his personal history to suit his new narrative." And a fourth respondent described, "[Our] son has completely made up his childhood to include only girl friends and dressing up in girls clothes and playing with dolls, etc. This is not the same childhood we have seen as parents."

Qualitative analysis

The open-ended comments from the question about whether the clinician explored mental health, trauma or alternative causes of gender dysphoria before proceeding were selected for qualitative analysis. Nine major themes emerged from the data. Each theme is described in the following paragraphs with supporting quotes from participants.

Theme: Failure to explore mental health, trauma or alternative causes of GD. Parents described that clinicians failed to explore their child's mental health, trauma, or any alternative causes for the child's gender dysphoria. This failure to explore mental health and trauma occurred even when patients had a history of mental health disorder or trauma, were currently being treated for a mental health disorder, or were currently experiencing symptoms. One participant said, "Nothing other than gender dysphoria was considered to explain my daughter's

desire to transition.” Another participant said, “My daughter saw a child therapist and the therapist was preparing to support transgenering and did not explore the depression and anxiety or previous trauma.”

Theme: Insufficient evaluation. Another theme was insufficient evaluation where parents described evaluations that were too limited or too superficial to explore mental health, trauma or alternative causes of gender dysphoria. The following are three quotes by three different parents describing insufficient evaluations. One parent said, “The exploration was egregiously insufficient, very shallow, no effort to ask questions, engage in critical thinking about coexisting anxiety, or put on the brakes or even slow down.” Another participant stated, “When we tried to give our son’s trans doctor a medical history of our son, she refused to accept it. She said the half hour diagnosis in her office with him was sufficient, as she considers herself an expert in the field.” And a third parent wrote, “We were STUNNED by the lack of information, medical history sought by therapist and radical treatment suggestion. [One] visit. The idea is, ‘if they say they were born in the wrong body, they are. To question this will only hurt her and prolong her suffering.’ [Our] daughter has had trauma in [the] past. [She] never was asked about it. [The] therapist did not ask parents a single question about our daughter.”

Theme: Unwillingness or disinterest in exploring mental health, trauma or alternative causes of GD. Parents described that clinicians did not seem interested or willing to explore alternative causes. One parent described, “Her current therapist seems to accept her self diagnosis of gender dysphoria and follows what she says without seeming too much interested in exploring the sexual trauma in her past.” Another parent wrote, “The Asperger psychiatrist did not seem to care whether our daughter’s gender dysphoria stemmed from Asperger’s. If our daughter wanted to be male, then that was enough.” And a third parent said, “The therapist did ask about those issues but seemed to want to accept the idea wholeheartedly that my daughter was transgender first and foremost, all other factors aside.”

Theme: Mental health was explored. A few parents had the experience where the clinician either made an appropriate referral for further evaluation or the issues had been addressed previously. One parent said, “[The] previous mental health issues [were] already explored by other therapists ([my] child was in therapy and medicated before coming out as transgender).”

Theme: Failure to communicate with patients’ medical providers. Several participants described clinicians who were unwilling to communicate with primary care physicians and mental health professionals even those professionals who were currently treating the patient. One participant relayed, “She did not review the extensive psychiatric records that were available in a shared EMR [electronic medical record] and she did not consult with his outpatient psychiatrist prior to or after starting cross-sex hormonal therapy.” Another parent said, “My child had been seen for mental health issues for several years before presenting this new identity, but the endocrinologist did not consult the mental health professionals for their opinions before offering hormones.”

Theme: Misrepresentation of information by the patient. Several participants described how their child misrepresented their history to the clinician, thus, limiting the clinician’s ability to adequately explore mental health, trauma and alternative causes. One participant wrote, “At [the] first visit, [my] daughter’s dialogue was well-rehearsed, fabricated stories about her life told to get [the] outcome she desired. She parroted people from the internet.” Another parent reported, “My son concealed the trauma and mental health issues that he and the family had experienced.” And a third parent said, “I overheard my son boasting on the phone to his older brother that ‘the doc swallowed everything I said hook, line and sinker. Easiest thing I ever did.’”

Theme: Transition steps were pushed by the clinician. Some parents described clinicians who seemed to push the process of transition before the patient asked for it. One parent described that the doctor gave her daughter a prescription that she didn’t ask for, “The family

doctor who gave her the Androgel Rx [prescription] did NOT ask her many questions (she was surprised by this), nor did he await her assessment by a licensed psychiatrist before giving her this Rx. Nor did she ask him for this Rx.” Another parent reported that she and her child were at the endocrinologist’s office only to ask questions, and described, “. . . [he] didn’t listen to a word we were saying. He was too eager to get us set up with a ‘gender therapist’ to get the legal form he needed to start hormones, all while making sure we set up our next appointment within 6 months to start the hormones. . . .”

Theme: Parent views were discounted or ignored. Parents describe that the clinicians did not take their concerns seriously. One parent described, “I have to say I don’t know, but it is hard to believe that they adequately examined the history of bullying and being ostracized for being different, and the autistic traits that would lend a person like my son to risk everything for identifying with a group. I know that in the few contacts I had with the providers, my concerns were discounted.” And another said, “All of our emails went unanswered and were ignored. We are left out of everything because of our constant questioning of this being right for our daughter [because of her] trauma and current depression, anxiety and self-esteem problems.”

Theme: Parent had concerns about the clinicians’ competence, professionalism or experience. Parents expressed doubts about the clinicians regarding their experience, competence or professionalism. One parent said, “The clinic told me they explored these issues. I asked the risk manager at [redacted] if they’d considered a personality disorder. ‘Oh, no,’ she laughed. ‘That’s only with the older patients, not the teenagers.’ I’m deeply suspicious of their competence.” Another parent described, “What does concern me is that the people she talked to seemed to have no sense of professional duties, but only a mission to promote a specific social ideology.”

Steps towards transition and current identification status

This section reports on the duration of AYA transgender-identification (time from the AYA’s announcement of a transgender identity until the time the parent completed the survey) that covers, on average, 15.0 months (range 0.1–120 months) with a median of 11 months (Table 12). The steps taken towards transition during this timeframe are listed in Table 12. At the end of the timeframe, 83.2% of the AYAs were still transgender-identified, 5.5% were not still transgender-identified (desisted), 2.7% seemed to be backing away from transgender-identification, and 8.6% of the parents did not know if their child was still identifying as transgender. Descriptions of backing away or moving from transgender-identified to not transgender-identified include the following. One parent observed, “She identified as trans for six months . . . Now back at school, she is thinking maybe she’s not trans.” Another parent offered, “My daughter [identified] as trans from ages 13–16. She gradually desisted as she developed more insight into who she is.” One parent described that after one year of identifying as transgender, “basically, she changed her mind once she stopped spending time with that particular group of friends.” The duration of transgender-identification of the AYAs who were still transgender-identified at the time of survey was compared to the duration of those who were no longer transgender-identified and those who seemed to be backing away from a transgender-identification (combined) by t-test. The difference between these groups was statistically significant ($p = .025$), with a t-value of -2.25 showing that those who were no longer transgender-identified and backing away had a longer duration of identification (mean = 24.1 months) and those who were still transgender-identified had a shorter mean duration (mean = 14.4 months).

To explore the differences between the AYAs who had exposure to social influence (friend group, internet/social media, or both) and AYAs who did not have a clear exposure to social influence (neither and don’t know), a series of chi-squared calculations were performed for

Table 12. Transition steps and disposition.

		n	%
Transition Steps*		256	
	Changed hairstyle	216	84.4
	Changed style of clothing	210	82.0
	Asks to be called a new name	188	73.4
	Asks for different pronouns	175	68.4
	Taken cross-sex hormones	29	11.3
	Legally changed name on government documents	19	7.4
	Taken anti-androgens	11	4.3
	Taken puberty blockers	7	2.7
	Had surgery	5	2.0
	None of the above	14	5.5
Disposition		256	
	Still transgender-identified	213	83.2
	Not transgender-identified any more (desisted)	14	5.5
	Seems to be backing away from transgender-identification	7	2.7
	Parent doesn't know if the child is still transgender-identified	22	8.6
	De-transitioned (also counted in desisted category)	3	1.2
Duration of transgender-identification overall	Median duration 11 months, Mean duration 15.0 months (range 0.1 months-120 months), median 11 months	225	
Duration of transgender-identification if still transgender-identified	Median duration 11 months, mean duration 14.4 months, range (0.1 months-72 months)	204	
Duration of transgender-identification if no longer transgender-identified	Median duration 12 months, mean duration 24.2 months, range (.75 months to 120 months)	13	
Duration of transgender-identification if backing away	Median duration 12 months, mean duration 15 months, range (3 months-36 months)	8	

*may select more than one answer.

<https://doi.org/10.1371/journal.pone.0202330.t012>

selected variables. (See Table 13.) Statistically significant differences were revealed for AYAs with exposure to social influences having worse outcomes for mental well-being and parent-child relationships, and greater numbers exhibiting distrust, isolating and anti-social behaviors including: narrowed range of interests and hobbies, expressing that they only trusted information from transgender sources, trying to isolate themselves from their family, losing interest in activities that weren't predominantly with transgender or LGBTIA participants, and telling people or posting on social media that their parent is "transphobic," "abusive," or "toxic" because the parent doesn't agree with the child's assessment of being transgender. Although the differences in additional isolating and anti-social behaviors did not reach statistical significance, these behaviors trended towards higher rates in the AYAs who were exposed to social influence and may have not reached significant levels due to small numbers. No significant difference for age of AYA (at announcement or at time of survey completion) was detected between groups by a one-way ANOVA.

Discussion

This research describes parental reports about a sample of AYAs who would not have met diagnostic criteria for gender dysphoria during their childhood but developed signs of gender dysphoria during adolescence or young adulthood. The strongest support for considering that the gender dysphoria was new in adolescence or young adulthood is the parental answers for

Table 13. chi-squared comparisons for exposure to social influence (SI) vs not exposure to social influence (NSI).

		SI n (%)	NSI n (%)	p
Sex		222	34	.123
	Female	187 (84.2)	25 (73.5)	
	Male	35 (15.8)	9 (26.5)	
Indicators of childhood GD		221	33	.004
	0–2 indicators	216 (97.7)	29 (87.9)	
	3–4 indicators	5 (2.3)	4 (12.1)	
Currently have two or more GD indicators		214	34	.808
	Yes	179(83.6)	29 (85.3)	
	No	35(16.4)	5(14.7)	
No mental health or NDD diagnoses before onset of GD		222	34	.036
	Answered “None of the above”	87(39.9)	7 (20.6)	
Mental well-being since announcement		220	33	.001
	Worse	114 (51.8)	6 (18.2)	
	Better	24 (10.9)	8 (24.2)	
	Unchanged/Mixed	82 (37.3)	19 (57.6)	
Parent-child relationship since announcement		219	33	.006
	Worse	134 (61.2)	11 (33.3)	
	Better	13 (5.9)	5 (15.2)	
	Unchanged/Mixed	72 (32.9)	17 (51.5)	
Range of interests and hobbies		220	34	<0.001
	Broader range of interests and hobbies	10 (4.5)	3 (8.8)	
	Narrowed range of interest and hobbies	139 (63.2)	9 (26.5)	
	Unchanged range	71 (32.3)	22 (64.7)	
Distrust and Isolating Behaviors		222	34	
	Tried to isolate themselves from family	114(51.4)	10 (29.4)	.017
	Expressed that they ONLY trust information about GD and transgenderism that comes from transgender sources	107 (48.2)	10 (29.4)	.041
	Lost interest in activities where participants aren’t predominantly transgender or LGBTIA	76 (34.2)	5 (14.7)	.023
	Stopped spending time with non-transgender friends	59 (26.6)	4 (11.8)	.062
	Expressed distrust of people who are not transgender	52 (23.4)	5 (14.7)	.255
	Told people or posted on social media that their parent is “transphobic,” “abusive,” or “toxic” because the parent doesn’t agree with the child’s assessment of being transgender	102 (45.9)	5 (14.7)	<0.001
	Defended the practice of lying to or withholding information from doctors/therapists to get hormones for transition more quickly	38 (17.1)	3 (8.8)	.219
	Brought up the issue of suicide in transgender teens as a reason parents should agree to treatment	55 (24.8)	4 (11.8)	.093
Did the AYA misrepresent their history to the doctor or relay it accurately?		68	8	.075
	Parent is reasonable sure or positive that their child misrepresented or omitted parts of their history	59 (86.8)	5 (62.5)	
	Parent is reasonable sure or positive that child relayed their history completely and accurately	9 (13.2)	3 (37.5)	

<https://doi.org/10.1371/journal.pone.0202330.t013>

DSM 5 criteria for childhood gender dysphoria. Not only would none of the sample have met threshold criteria, the vast majority had zero indicators. Although one might argue that three of the indicators could plausibly be missed by a parent (A1, A7, and A8 if the child had not

expressed these verbally), five of the indicators (A2-6) are readily observable behaviors and preferences that would be difficult for a parent to miss. Six indicators (including A1) are required for a threshold diagnosis. The nonexistent and low numbers of readily observable indicators reported in the majority of this sample does not support a scenario in which gender dysphoria was always present but was only recently disclosed to the parents.

Parents reported that before the onset of their gender dysphoria, many of the AYAs had been diagnosed with at least one mental health disorder or neurodevelopmental disability and many had experienced a traumatic or stressful event. Experiencing a sex or gender related trauma was not uncommon, nor was experiencing a family stressor (such as parental divorce, death of a parent, or a mental health disorder in a sibling or parent). Additionally, nearly half were described as having engaged in self-harm prior to the onset of their gender dysphoria. In other words, many of the AYAs and their families had been navigating multiple challenges and stressors before gender dysphoria and transgender-identification became part of their lives. This context could possibly contribute to friction between parent and child and these complex, overlapping difficulties as well as experiences of same-sex attraction may also be influential in the development of a transgender identification for some of these AYAs. Care should be taken not to overstate or understate the context of pre-existing diagnoses or trauma in this population as they were absent in approximately one third and present in approximately two thirds of the sample.

This research sample of AYAs also differs from the general population in that it is predominantly natal female, white, and has an over-representation of individuals who are academically gifted, non-heterosexual, and are offspring of parents with high educational attainment [59–61]. The sex ratio favoring natal females is consistent with recent changes in the population of individuals seeking care for gender dysphoria. Gender clinics have reported substantial increases in referrals for adolescents with a change in the sex ratio of patients moving from predominantly natal males seeking care for gender dysphoria to predominantly natal females [26–28, 62]. Although increased visibility of transgender individuals in the media and availability of information online, with a partial reduction of stigma might explain some of the rise in the numbers of adolescents presenting for care [27], it would not directly explain why the inversion of the sex ratio has occurred for adolescents but not adults or why there is a new phenomenon of natal females experiencing late-onset and adolescent-onset gender dysphoria. The unexpectedly high rate of academically gifted AYAs may be related to the high educational attainment of the parents and may be a reflection of parents who are online, able to complete online surveys and are able to question and challenge current narratives about gender dysphoria and transition. There may be other unknown variables that render academically gifted AYAs susceptible to adolescent-onset and late-onset gender dysphoria. The higher than expected rate of non-heterosexual orientations of the AYAs (prior to announcement of a transgender-identity) may suggest that the desire to be the opposite sex could stem from experiencing homophobia as a recent study showed that being the recipient of homophobic name calling from one's peers was associated with a change in gender identity for adolescents [63]. The potential relationship of experienced homophobia and the development of a rapid onset of gender dysphoria during adolescence or young adulthood as perceived by parents deserves further study.

This sample is distinctively different than what is described in previous research about gender dysphoria because of the distribution of cases occurring in friendship groups with multiple individuals identifying as transgender, the preponderance of adolescent (natal) females, the absence of childhood gender dysphoria, and the perceived suddenness of onset. In this study, parental reports of transgender identification duration in AYAs suggest that in some cases (~8% in this study) gender dysphoria and transgender-identification may be temporary, and

that longer observation periods may be needed to assess such changes. Further research is needed to verify these results. There have been anecdotal reports of adolescents who desisted approximately 9–36 months after showing signs of a rapid onset of gender dysphoria, but longitudinal research following AYAs with gender dysphoria would be necessary to study desistance trends. Although it is still unknown whether transition in gender dysphoric individuals decreases, increases, or fails to change the rates of attempted or completed suicides [64], this study documents AYAs using a suicide narrative as part of their arguments to parents and doctors towards receiving support and transition services. Despite the possibility that the AYAs are using a suicide narrative to manipulate others, it is critical that any suicide threat, ideation or concern is taken seriously and the individual should be evaluated immediately by a mental health professional.

The majority of parents were reasonably sure or certain that their child misrepresented or omitted key parts of their history to their therapists and physicians. In some cases, the misrepresentation of one's history may simply be a deliberate act by a person who is convinced that transition is the only way that they will feel better and who may have been coached that lying is the only way to get what they think they need. For others, the misrepresentation may not be a conscious act. The creation of an alternate version of one's childhood that conforms to a story of always knowing one was transgender and that is in sharp contrast to the childhood that was observed by third parties raises the question of whether there has been the creation of false childhood memories as part of, or outside of, the therapy process. Respondent accounts of clinicians who ignored or disregarded information (such as mental health symptoms and diagnoses, medical and trauma histories) that did not support the conclusion that the patient was transgender, suggests the possibility of motivated reasoning and confirmatory biases on the part of clinicians. In the 1990s, the beliefs and practices of many mental health professionals may have contributed to their patients' creation of false childhood memories consistent with a child sexual abuse narrative and research since then has shown that false childhood memories of mundane events can be implanted in laboratory settings [65–67]. It may be worthwhile to explore if, in today's culture, there might be beliefs and practices of some mental health professionals that are contributing to their patients' creation of false childhood memories consistent with an "always knew/always were transgender" narrative.

Emerging hypotheses

Hypothesis 1: Social influences can contribute to the development of gender dysphoria

It is unlikely that friends and the internet can make people transgender. However, it is plausible that the following can be initiated, magnified, spread, and maintained via the mechanisms of social and peer contagion: (1) the *belief* that non-specific symptoms (including the symptoms associated with trauma, symptoms of psychiatric problems, and symptoms that are part of normal puberty) should be perceived as gender dysphoria and their presence as proof of being transgender; 2) the *belief* that the only path to happiness is transition; and 3) the *belief* that anyone who disagrees with the self-assessment of being transgender or the plan for transition is transphobic, abusive, and should be cut out of one's life. The spread of these beliefs could allow vulnerable AYAs to misinterpret their emotions, incorrectly believe themselves to be transgender and in need of transition, and then inappropriately reject all information that is contrary to these beliefs. In other words, "gender dysphoria" may be used as a catch-all explanation for any kind of distress, psychological pain, and discomfort that an AYA is feeling while transition is being promoted as a cure-all solution.

One of the most compelling findings supporting a potential role of social and peer contagion in the development or expression of a rapid onset of gender dysphoria is the clusters of transgender-identification occurring within friendship groups. The expected prevalence of transgender young adult individuals is 0.7% [8]. Yet, according to the parental reports, more than a third of the friendship groups described in this study had 50% or more of the AYAs in the group becoming transgender-identified in a similar time frame. This suggests a localized increase to more than 70 times the expected prevalence rate. This is an observation that demands urgent further investigation. One might argue that high rates of transgender-identified individuals within friend groups may be secondary to the process of friend selection: choosing transgender-identified friends deliberately rather than the result of group dynamics and observed coping styles contributing to multiple individuals, in a similar timeframe, starting to interpret their feelings as consistent with being transgender. More research will be needed to finely delineate the timing of friend group formation and the timing and pattern of each new declaration of transgender-identification. Although friend selection may play a role in these high percentages of transgender-identifying members in friend groups, the described pattern of multiple friends (and often the majority of the friends in the friend group) *becoming* transgender-identified in a similar timeframe suggests that there may be more than just friend selection behind these elevated percentages.

There are many insights from our understanding of peer contagion in eating disorders and anorexia that may apply to the potential role(s) of peer contagion in the development of gender dysphoria. Just as friendship cliques can set the level of preoccupation with one's body, body image, weight, and techniques for weight loss [37–39], so too may friendship cliques set a level of preoccupation with one's body, body image, gender, and the techniques to transition. The descriptions of pro-anorexia subculture group dynamics where the thinnest anorexics are admired while the anorexics who try to recover from anorexia are ridiculed and maligned as outsiders [39–41] resemble the group dynamics in friend groups that validate those who identify as transgender and mock those who do not. And the pro-eating-disorder websites and online communities providing inspiration for weight loss and sharing tricks to help individuals deceive parents and doctors [42–44] may be analogous to the inspirational YouTube transition videos and the shared online advice about manipulating parents and doctors to obtain hormones.

Hypothesis 2: Parental conflict might provide alternative explanations for selected findings

Parents reported subjective declines in their AYAs' mental health and in parent-child relationships after the children disclosed a transgender identification. Additionally, per parent report, almost half of the AYAs withdrew from family, 28.5% refused to speak to a parent, and 6.8% tried to run away. It is possible that some of these findings might be secondary to parent-child conflict. Parent-child conflict could arise from disagreement over the child's self-assessment of being transgender. It is also possible that some parents might have had difficulty coping or could have been coping poorly or maladaptively with their child's disclosure. Other potential explanations for the above findings include worsening of AYAs' pre-existing (or onset of new) psychiatric conditions or the use of maladaptive coping mechanisms. To further evaluate these possibilities, future studies should incorporate information about family dynamics, parent-child interactions, parent coping, child coping, and psychiatric trajectories. This study did not collect data about the parents' baseline coping styles, how they were coping with their child's disclosure, and whether their coping seemed to be maladaptive or adaptive. Nor did it explore parents' mental well-being. Future studies should explore these issues as well.

Although most parents reported an absence of childhood indicators for gender dysphoria, it is possible that these indicators might have existed for some of the AYAs and that some parents either failed to notice or ignored these indicators when they occurred. Because the readily observable indicators could also have been observed by other people in the child's life, future studies should include input from parents, AYAs and from third party informants such as teachers, pediatricians, mental health professionals, babysitters, and other family members to verify the presence or absence of readily observable behaviors and preferences during childhood. Parental approaches to their child's gender dysphoria might contribute to specific outcomes. This study did not specifically explore parental approaches to gender dysphoria or parental views on medical or surgical interventions. Additional studies that explore whether parents support or don't support: gender exploration; gender nonconformity; non-heterosexual sexual identities; mental health evaluation and treatment; and exploration of potential underlying causes for dysphoria would be extremely valuable. It would also be worthwhile to explore whether parents favor affirming the child as a person or affirming the child's gender identity and whether parents hold liberal, cautious, or negative views about the use of medical and surgical interventions for gender dysphoria in AYAs.

Hypothesis 3: Maladaptive coping mechanisms may underlie the development of gender dysphoria for some AYAs

For some individuals, the drive to transition may represent an ego-syntonic but maladaptive coping mechanism to avoid feeling strong or negative emotions similar to how the drive to extreme weight loss can serve as an ego-syntonic but maladaptive coping mechanism in anorexia nervosa [68–69]. A maladaptive coping mechanism is a response to a stressor that might relieve the symptoms temporarily but does not address the cause of the problem and may cause additional negative outcomes. Examples of maladaptive coping mechanisms include the use of alcohol, drugs, or self-harm to distract oneself from experiencing painful emotions. One reason that the treatment of anorexia nervosa is so challenging is that the drive for extreme weight loss and weight loss activities can become a maladaptive coping mechanism that allows the patient to avoid feeling and dealing with strong emotions [69–70]. In this context, dieting is not felt as distressing to the patient, because it is considered by the patient to be the solution to her problems, and not part of the problems. In other words, the dieting and weight loss activities are ego-syntonic to the patient. However, distress is felt by the patient when external actors (doctors, parents, hospital staff) try to interfere with her weight loss activities thus curtailing her maladaptive coping mechanism.

Findings that may support a maladaptive coping mechanism hypothesis include that the most likely description of AYA ability to use negative emotions productively was poor/extremely poor and the majority of AYAs were described as “overwhelmed by strong emotions and tries to/goes to great lengths to avoid experiencing them.” Although these are not validated questions, the findings suggest, at least, that there is a history of difficulty dealing with emotions. The high frequency of parents reporting AYA expectations that transition would solve their problems coupled with the sizable minority who reported AYA unwillingness to work on basic mental health issues before seeking treatment support the concept that the drive to transition might be used to avoid dealing with mental health issues and aversive emotions. Additional support for this hypothesis is that the sample of AYAs described in this study are predominantly female, were described by parents as beginning to express symptoms during adolescence and contained an overrepresentation of academically gifted students which bears a strong resemblance to populations of individuals diagnosed with anorexia nervosa [71–75]. The risk factors, mechanisms and meanings of anorexia nervosa [69–70, 76] may ultimately

prove to be a valuable template to understand the risk factors, mechanisms, and meanings for some cases of gender dysphoria.

Transition as a drive to escape one's gender/sex, emotions, or difficult realities might also be considered when the drive to transition arises after a sex or gender-related trauma or within the context of significant psychiatric symptoms and decline in ability to function. Although trauma and psychiatric disorders are not specific for the development of gender dysphoria, these experiences may leave a person in psychological pain and in search of a coping mechanism. The first coping mechanism that a vulnerable person adopts may be the result of their environment and which narratives for pain and coping are most prevalent in that environment—in some settings a gender dysphoria/drive to transition may be the dominant paradigm, in some settings a body dysphoria/drive for extreme weight loss is dominant, and in another the use of alcohol and drugs to cope with pain may be dominant. Because maladaptive coping mechanisms do not address the root cause of distress and may cause their own negative consequences, an outcome commonly reported for this sample, AYAs experiencing a decline in their mental well-being after transgender-identification, is consistent with this hypothesis. There was a subset of AYAs for whom parents reported improvement in their mental well-being as they desisted from their transgender-identification which would not be inconsistent with moving from a maladaptive coping mechanism to an adaptive coping mechanism.

If the above hypotheses are correct, rapid onset of gender dysphoria that is socially mediated and/or used as a maladaptive coping mechanism may be harmful to AYAs in the following ways: (1) non-treatment or delayed treatment for trauma and mental health problems that might be the root of (or at least an inherent part of) the AYAs' issues; (2) alienation of the AYAs from their parents and other crucial social support systems; (3) isolation from mainstream, non-transgender society, which may curtail educational and vocational potential; and (4) the assumption of the medical and surgical risks of transition without benefit. In addition to these indirect harms, there is also the possibility that this type of gender dysphoria, with the subsequent drive to transition, may represent a form of intentional self-harm. Promoting the affirmation of a declared gender and recommending transition (social, medical, surgical) without evaluation may add to the harm for these individuals as it can reinforce the maladaptive coping mechanism, prolong the length of time before the AYA accepts treatment for trauma or mental health issues, and interfere with the development of healthy, adaptive coping mechanisms. It is especially critical to differentiate individuals who would benefit from transition from those who would be harmed by transition before proceeding with treatment.

Reflections

Clinicians need to be aware of the myriad of barriers that may stand in the way of making accurate diagnoses when an AYA presents with a desire to transition including: the developmental stage of adolescence; the presence of subcultures coaching AYAs to mislead their doctors; and the exclusion of parents from the evaluation. In this study, 22.3% of AYAs were reported as having been exposed to online advice about what to say to doctors to get hormones, and 17.5% to the advice that it is acceptable to lie to physicians; and the vast majority of parents were reasonably sure or positive that their child misrepresented their history to their doctor or therapist. Furthermore, although parents may be knowledgeable informants on matters of their own child's developmental, medical, social, behavioral, and mental health history- and quite possibly *because* they are knowledgeable- they are often excluded from the clinical discussion by the AYAs, themselves. An AYA telling their clinician that their parents are transphobic and abusive may indeed mean that the parents are transphobic and abusive. However, the findings of this research indicate that it is also possible that the AYA calls the parent

transphobic and abusive because the parent disagrees with the child's self-diagnosis, has expressed concern for the child's future, or has requested that the child be evaluated for mental health issues before proceeding with treatment.

The findings of this study suggest that clinicians need to be cautious before relying solely on self-report when AYAs seek social, medical or surgical transition. Adolescents and young adults are not trained medical professionals. When AYAs diagnose their own symptoms based on what they read on the internet and hear from their friends, it is quite possible for them to reach incorrect conclusions. It is the duty of the clinician, when seeing a new AYA patient seeking transition, to perform their own evaluation and differential diagnosis to determine if the patient is correct or incorrect in their self-assessment of their symptoms and their conviction that they would benefit from transition. This is not to say that the convictions of the patient should be dismissed or ignored, some may ultimately benefit from transition. However, careful clinical exploration should not be neglected, either. The patient's history being significantly different than their parents' account of the child's history should serve as a red flag that a more thorough evaluation is needed and that as much as possible about the patient's history should be verified by other sources. The findings that the majority of clinicians described in this study did not explore trauma or mental health disorders as possible causes of gender dysphoria or request medical records in patients with atypical presentations of gender dysphoria is alarming. The reported behavior of clinicians refusing to communicate with their patients' parents, primary care physicians, and psychiatrists betrays a resistance to triangulation of evidence which puts AYAs at considerable risk.

It is possible that some teens and young adults may have requested that their discussions with the clinicians addressing gender issues be kept confidential from their parents, as is their right (except for information that would put themselves or others at harm). However, maintaining confidentiality of the patient does not prevent the clinician from listening to the medical and social history of the patient provided by the parent. Nor does it prevent a clinician from accepting information provided by the patient's primary care physicians and psychiatrists. Because adolescents may not be reliable historians and may have limited awareness and insight about their own emotions and behaviors, the inclusion of information from multiple informants is often recommended when working with or evaluating minors. One would expect that if a patient refuses the inclusion of information from parents and physicians (prior and current), that the clinician would explore this with the patient and encourage them to reconsider. At the very least, if a patient asks that all information from parents and medical sources be disregarded, it should raise the suspicion that what the patient is presenting may be less than forthcoming and the clinician should proceed with caution.

The argument to surface from this study is not that the insider perspectives of AYAs presenting with signs of a rapid onset of gender dysphoria should be set aside by clinicians, but that the insights of parents are a pre-requisite for robust triangulation of evidence and fully informed diagnosis. All parents know their growing children are not always right, particularly in the almost universally tumultuous period of adolescence. Most parents have the awareness and humility to know that even as adults they are not always right themselves. When an AYA presents with signs of a rapid onset of gender dysphoria it is incumbent upon all professionals to fully respect the young person's insider perspective but also, in the interests of safe diagnosis and avoidance of clinical harm, to have the awareness and humility themselves to engage with parental perspectives and triangulate evidence in the interest of validity and reliability.

The strengths of this study include that it is the first empirical description of a specific phenomenon that has been observed by parents and clinicians [14] and that it explores parent observations of the psychosocial context of youth who have recently identified as transgender with a focus on vulnerabilities, co-morbidities, peer group interactions, and social media use.

Additionally, the qualitative analysis of responses about peer group dynamics provides a rich illustration of AYA intra-group and inter-group behaviors as observed and reported by parents. This research also provides a glimpse into parent perceptions of clinician interactions in the evaluation and treatment of AYAs with an adolescent-onset (or young adult-onset) of gender dysphoria symptoms.

The limitations of this study include that it is a descriptive study and thus has the known limitations inherent in all descriptive studies. This is not a prevalence study and does not attempt to evaluate the prevalence of gender dysphoria in adolescents and young adults who had not exhibited childhood symptoms. Likewise, this study's findings did not demonstrate the degree to which the onset of gender dysphoria symptoms may be socially mediated or associated with a maladaptive coping mechanism, although these hypotheses were discussed here. Gathering more data on the topics introduced is a key recommendation for further study. It is not uncommon for first, descriptive studies, especially when studying a population or phenomenon where the prevalence is unknown, to use targeted recruiting. To maximize the possibility of finding cases meeting eligibility criteria, recruitment is directed towards communities that are likely to have eligible participants. For example, in the first descriptive study about children who had been socially transitioned, the authors recruited potential subjects from gender expansive camps and gender conferences where parents who supported social transition for young children might be present and the authors did not seek out communities where parents might be less inclined to find social transition for young children appropriate [77]. In the same way, for the current study, recruitment was targeted primarily to sites where parents had described the phenomenon of a rapid onset of gender dysphoria because those might be communities where such cases could be found. The generalizability of the study must be carefully delineated based on the recruitment methods, and, like all first descriptive studies, additional studies will be needed to replicate the findings.

Three of the sites that posted recruitment information expressed cautious or negative views about medical and surgical interventions for gender dysphoric adolescents and young adults and cautious or negative views about categorizing gender dysphoric youth as transgender. One of the sites that posted recruitment information is perceived to be pro-gender-affirming. Hence, the populations viewing these websites might hold different views or beliefs from each other. And both populations may differ from a broader general population in their attitudes about transgender-identified individuals. This study did not explore specific participant views about medical and surgical interventions for gender dysphoric youth or whether participants support or don't support: exploration of gender identity, exploration of potential underlying causes for gender dysphoria, affirmation of children as valued individuals or affirmation of children's gender identity. Future studies should explore all these issues. This study cannot speak to those details about the participants.

Respondents were asked, "Do you believe that transgender people deserve the same rights and protections as others in your country?" which is a question that was adapted from a question used for a US national poll [78]. Although this question cannot elicit specific details about a persons' beliefs about medical interventions, beliefs about transgender identification, or their beliefs about their own child, it can be used to assess if the participants in this study are similar in their basic beliefs about the rights of transgender people to the participants in the US national poll. The majority (88.2%) of the study participants gave affirmative answers to the question which is consistent with the 89% affirmative response reported in a US national poll [78]. All self-reported results have the potential limitation of social desirability bias. However, comparing this self-report sample to the national self-report sample [78], the results show similar rates of support. Therefore, there is no evidence that the study sample is appreciably different in their support of the rights of transgender people than the general American population.

It is also important to note that recruitment was not limited to the websites where the information about the study was first posted. Snowball sampling was also used so that any person viewing the recruitment information was encouraged to share the information with any person or community where they thought there could be potentially eligible participants, thus substantially widening the reach of potential respondents. In follow up studies on this topic, an even wider variety of recruitment sources should be attempted.

Another limitation of this study is that it included only parental perspective. Ideally, data would be obtained from both the parent and the child and the absence of either perspective paints an incomplete account of events. Input from the youth would have yielded additional information. Further research that includes data collection from both parent and child is required to fully understand this condition. However, because this research has been produced in a climate where the input from parents is often neglected in the evaluation and treatment of gender dysphoric AYAs, this research supplies a valuable, previously missing piece to the jigsaw puzzle. If Hypothesis 3 is correct that for some AYAs gender dysphoria represents an ego-syntonic maladaptive coping mechanism, data from parents are especially important because affected AYAs may be so committed to the maladaptive coping mechanism that their ability to assess their own situation may be impaired. Furthermore, parents uniquely can provide details of their child's early development and the presence or absence of readily observable childhood indicators of gender dysphoria are especially relevant to the diagnosis. There are, however, obvious limitations to relying solely on parent report. It is possible that some of the participating parents may not have noticed symptoms of gender dysphoria before their AYA's disclosure of a transgender identity; could have been experiencing shock, grief, or difficulty coping from the disclosure; or even could have chosen to deny or obscure knowledge of long term gender dysphoria. Readers should hold this possibility in mind. Overall, the 200 plus responses appear to have been prepared carefully and were rich in detail, suggesting they were written in good faith and that parents were attentive observers of their children's lives. Although this research adds the necessary component of parent observation to our understanding of gender dysphoric adolescents and young adults, future study in this area should include both parent and child input.

This research does not imply that no AYAs who become transgender-identified during their adolescent or young adult years had earlier symptoms nor does it imply that no AYAs would ultimately benefit from transition. Rather, the findings suggest that *not all* AYAs presenting at these vulnerable ages are correct in their self-assessment of the cause of their symptoms and *some* AYAs may be employing a drive to transition as a maladaptive coping mechanism. It may be difficult to distinguish if an AYA's declining mental health is occurring due to the use of a maladaptive coping mechanism, due to the worsening of a pre-existing (or onset of a new) psychiatric condition, or due to conflict with parents. Clinicians should carefully explore these options and try to clarify areas of disagreement with confirmation from outside sources such as medical records, psychiatrists, psychologists, primary care physicians, and other third party informants where possible. Further study of maladaptive coping mechanisms, psychiatric conditions and family dynamics in the context of gender dysphoria and mental health would be an especially valuable contribution to better understand how to treat youth with gender dysphoria.

More research is needed to determine the incidence, prevalence, persistence and desistence rates, and the duration of gender dysphoria for adolescent-onset gender dysphoria and to examine whether rapid-onset gender dysphoria is a distinct and/or clinically valid subcategory of gender dysphoria. Adolescent-onset gender dysphoria is sufficiently different from early-onset of gender dysphoria that persists or worsens at puberty and therefore, the research results from early-onset gender dysphoria should not be considered generalizable to

adolescent-onset gender dysphoria. It is currently unknown whether the gender dysphorias of adolescent-onset gender dysphoria and of late-onset gender dysphoria occurring in young adults are transient, temporary or likely to be long-term. Without the knowledge of whether the gender dysphoria is likely to be temporary, extreme caution should be applied before considering the use of treatments that have permanent effects such as cross-sex hormones and surgery. Research needs to be done to determine if affirming a newly declared gender identity, social transition, puberty suppression and cross-sex hormones can cause an iatrogenic persistence of gender dysphoria in individuals who would have had their gender dysphoria resolve on its own and whether these interventions prolong the duration of time that an individual feels gender dysphoric before desisting. There is also a need to discover how to diagnose these conditions, how to treat the AYAs affected, and how best to support AYAs and their families. Additionally, analyses of online content for pro-transition sites and social media should be conducted in the same way that content analysis has been performed for pro-eating disorder websites and social media content [44]. Finally, further exploration is needed for potential contributors to recent demographic changes including the substantial increase in the number of adolescent natal females with gender dysphoria and the new phenomenon of natal females experiencing late-onset or adolescent-onset gender dysphoria.

Conclusion

Collecting data from parents in this descriptive exploratory study has provided valuable, detailed information that allows for the generation of hypotheses about potential factors contributing to the onset and expression of gender dysphoria among AYAs. Emerging hypotheses include the possibility of a potential new subcategory of gender dysphoria (referred to as rapid-onset gender dysphoria) that has not yet been clinically validated and the possibility of social influences and maladaptive coping mechanisms contributing to the development of gender dysphoria. Parent-child conflict may also contribute to the course of the dysphoria. More research that includes data collection from AYAs, parents, clinicians and third party informants is needed to further explore the roles of social influence, maladaptive coping mechanisms, parental approaches, and family dynamics in the development and duration of gender dysphoria in adolescents and young adults.

Supporting information

S1 Appendix. Survey instrument.
(PDF)

S2 Appendix. COREQ checklist.
(PDF)

Acknowledgments

I would like to acknowledge Michael L. Littman, PhD, for his assistance in the statistical analysis of quantitative data, Michele Moore, PhD, for her assistance in qualitative data analysis and feedback on an earlier version of the manuscript, Lisa Marchiano, LCSW, for feedback on earlier versions of the manuscript, and four external peer-reviewers, three PLOS ONE staff editors and two Academic Editors for their attention to this research.

Author Contributions

Conceptualization: Lisa Littman.

Data curation: Lisa Littman.

Formal analysis: Lisa Littman.

Investigation: Lisa Littman.

Methodology: Lisa Littman.

Project administration: Lisa Littman.

Writing – original draft: Lisa Littman.

Writing – review & editing: Lisa Littman.

References

1. 4thwavenow website. Do no harm: an interview with the founder of youth trans critical professionals. Available from: <https://4thwavenow.com/2016/04/05/do-no-harm-an-interview-with-the-founder-of-youth-trans-critical-professionals/>
2. 4thwavenow (2015, August 20). About. Retrieved from <https://web.archive.org/web/20150820025032/http://4thwavenow.com/about/>
3. 4thwavenow website. One mother's story: A teen's transformation in only 3 months. Available from: <https://4thwavenow.com/2015/06/29/one-mothers-story-a-teens-transformation-in-only-3-months/>
4. 4thwavenow website. Internet parenting expert berates mom of teen who grew out of trans identity. Available from: <https://4thwavenow.com/2016/07/28/internet-parenting-expert-berates-mom-of-teen-who-grew-out-of-trans-identity/>
5. Steensma TD, Kreukels BPC, deVries ALC, Cohen-Kettenis PT. Gender identity development in adolescence. *Hormones and Behavior*. 2013; 64:288–297. <https://doi.org/10.1016/j.yhbeh.2013.02.020> PMID: 23998673
6. Leibowitz S, de Vries ALC. Gender dysphoria in adolescence. *International Review of Psychiatry*. 2016; 28: 21–35. <https://doi.org/10.3109/09540261.2015.1124844> PMID: 26828376
7. Cohen-Kettenis PT, Klink D. Adolescents with gender dysphoria. *Best Practice & Research Clinical Endocrinology & Metabolism*. 2015; 29: 485–495.
8. Flores AR, Herman JL, Gates GJ, Brown TNT. How Many Adults Identify as Transgender in the United States? Los Angeles, CA. 2016: The Williams Institute.
9. 4thwavenow (2016, January 20). About. Retrieved from <https://web.archive.org/web/20160120003530/http://4thwavenow.com/about/>
10. Zucker KJ, Bradley SJ, Owen-Anderson A, Kibblewhite SJ, Wood H, Singh D, Choi K. Demographics, Behavior Problems, and Psychosexual Characteristics of Adolescents with Gender Identity Disorder or Transvestic Fetishism, *Journal of Sex & Marital Therapy*. 2012; 38:2, 151–189, <https://doi.org/10.1080/0092623X.2011.611219> PMID: 22390530
11. Zucker KJ, Lawrence AA, Kreukels BPC. Gender dysphoria in adults. *Annu Rev Clin Psychol*. 2016; 12:217–47. <https://doi.org/10.1146/annurev-clinpsy-021815-093034> PMID: 26788901
12. Edwards-Leeper L, Spack NP. Psychological evaluation and medical treatment of transgender youth in an interdisciplinary “gender management service” (GeMS) in a major pediatric center. *Journal of Homosexuality*. 2012; 59 (3): 321–336. <https://doi.org/10.1080/00918369.2012.653302> PMID: 22455323
13. Kaltiala-Heino R, Sumia M, Tyolajarvi M, Lindberg N. Two years of gender identity service for minors: overrepresentation of natal girls with severe problems in adolescent development. *Child and Adolescent Psychiatry and Mental Health*. 2015; 9:9: 1–9. <https://doi.org/10.1186/s13034-015-0042-y> PMID: 25873995
14. Bonfatto M, Crasnow E. Gender/ed identities: an overview of our current work as child psychotherapists in the Gender Identity Development Service. *Journal of Child Psychotherapy*. 2018; 44 (1): 29–46.
15. Kaltiala-Heino R, Bergman H, Tyolajarvi M, Frisen L. Gender dysphoria in adolescence: current perspectives. *Adolescent Health, Medicine and Therapeutics*. 2018; 9:31–41. <https://doi.org/10.2147/AHMT.S135432> PMID: 29535563
16. Wallien MSC, Cohen-Kettenis PT. Psychosexual outcome of gender dysphoric children. *J. Am. Acad. Child Adolescent Psychiatry*. 2008; 47 (12): 1413–1423.
17. Steensma TD; McGuire JK, Kreukels BPC, Beekman AJ, Cohen-Kettenis PT. Factors associated with desistence and persistence of childhood gender dysphoria: a quantitative follow-up study. *Journal of the Academy of Child & Adolescent Psychiatry*. 2013; 53(6): 582–590.

18. Steensma TD, Biemond R, de Boer F, Cohen-Kettenis PT. Desisting and persisting gender dysphoria after childhood: a qualitative follow-up study. *Clinical Child Psychology and Psychiatry*. 2010; 16 (4):499–516.
19. Delemarre-van de Waal HA, Cohen-Kettenis PT. Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects. *European Journal of Endocrinology*. 2006; 155: S131–S137.
20. de Vries ALC, Steensma TD, Doreleijers TAH, Cohen-Kettenis PT. Puberty suppression in adolescents with gender identity disorder: a prospective follow-up study. *J Sex Med*. 2011; 8:2276–2283. <https://doi.org/10.1111/j.1743-6109.2010.01943.x> PMID: 20646177
21. de Vries ALC, McGuire JK, Steensma TD, Wagenaar ECF, Doreleijers TAH, Cohen-Kettenis PT. Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics*. 2014; 134 (4): 696–704. <https://doi.org/10.1542/peds.2013-2958> PMID: 25201798
22. Schagen SEE, Cohen-Kettenis PT, Delemarre-van de Waal HA, Hannema SE. Efficacy and safety of gonadotropin-releasing hormone agonist treatment to suppress puberty in gender dysphoric adolescents. *J Sex Med*. 2016; 13: 1125–1132. <https://doi.org/10.1016/j.jsxm.2016.05.004> PMID: 27318023
23. Costa R, Dunsford M, Skagerberg E, Holt V, Carmichael P, Colizzi M. Psychological support, puberty suppression, and psychosocial functioning in adolescents with gender dysphoria. *J Sex Med*. 2015; 12:2206–2214. <https://doi.org/10.1111/jsm.13034> PMID: 26556015
24. Cohen-Kettenis PT, van Goozen SHM. Sex reassignment of adolescent transsexuals: a follow up study. *Journal of the academy of child & adolescent Psychiatry*. 1997; 36(2): 263–271.
25. Byne W, Bradley SJ, Coleman E, Eyler AE, Green R, Menvielle EJ, et al. Report of the American Psychiatric Association Task Force on Treatment of Gender Identity Disorder. *Archives of Sexual Behavior*. 2012; 41: 759–796. <https://doi.org/10.1007/s10508-012-9975-x> PMID: 22736225
26. Zucker KJ. Epidemiology of gender dysphoria and transgender identity. *Sex Health*. 2017 Oct; 14 (5):404–411. <https://doi.org/10.1071/SH17067> PMID: 28838353
27. Aitken MA, Steensma TD, Blanchard R, VanderLaan DP, Wood H, Fuentes A, et al. Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. *J Sex Med*. 2015; 12:756–763. <https://doi.org/10.1111/jsm.12817> PMID: 25612159
28. de graaf NM, Giovanardi G, Zitz C, Carmichael P. Sex Ratio in Children and Adolescents Referred to the Gender Identity Development Service in the UK (2009–2016). *Archives of Sexual Behavior*. 2018; 47:1301–1304. <https://doi.org/10.1007/s10508-018-1204-9> PMID: 29696550
29. Marsden P. Memetics and social contagion: Two sides of the same coin? *Journal of Memetics: Evolutionary Models of Information Transmission*. 1998; 12: 68–79.
30. Dishion TJ and Tipsord JM. Peer contagion in child and adolescent social and emotional development. *Annual Review of Psychology*. 2011; 62: 189–214. <https://doi.org/10.1146/annurev.psych.093008.100412> PMID: 19575606
31. Prinstein MJ. Moderators of peer contagion: A longitudinal examination of depression socialization between adolescents and their best friends. *Journal of Clinical Child and Adolescent Psychology*. 2007; 36:159–170. <https://doi.org/10.1080/15374410701274934> PMID: 17484689
32. Schwartz-Mette RA, Rose AJ. Co-rumination mediates contagion of internalizing symptoms within youths' friendships. *Developmental Psychology*. 2012; 48: 1355–1365. <https://doi.org/10.1037/a0027484> PMID: 22369336
33. Schwartz-Mette RA, Smith RL. When does co-rumination facilitate depression contagion in adolescent friendships? Investigating intrapersonal and interpersonal factors. *J of Clin Child Adolesc Psychol*. 2016; 1: 1–13 <https://doi.org/10.1080/15374416.2016.1197837> PMID: 27586501
34. Starr LR. When support seeking backfires: co-rumination, excessive reassurance seeking and depressed mood in the daily lives of young adults. *Journal of Social and Clinical Psychology*. 2015; 34 (5): 436–457. <https://doi.org/10.1521/jscp.2015.34.5.436> PMID: 29151669
35. Dishion TJ, Spracklen JM, Andrews DW, Patterson GR. Deviancy training in male adolescents' friendships. *Behavior Therapy*. 1996; 27:373–390.
36. Dishion TJ, McCord J, Poulin F. When interventions harm: peer groups and problem behavior. *American Psychologist*. 1999; 54(9): 755–764. PMID: 10510665
37. Paxton SJ, Schutz HK, Wertheim EH, Muir SL. Friendship clique and peer influences on body image concerns, dietary restraint, extreme weight-loss behaviors, and binge eating in adolescent girls. *Journal of Abnormal Psychology*. 1999; 108:255–266. PMID: 10369035
38. Eisenberg ME, Neumark-Sztainer D. Friends' dieting and disordered eating behaviors among adolescents five years later: Findings from project EAT. *Journal of Adolescent Health*. 2010; 47: 67–73. <https://doi.org/10.1016/j.jadohealth.2009.12.030> PMID: 20547294

39. Allison S, Warin M, Bastiampillai T. Anorexia nervosa and social contagion: clinical implications. *Aust N Z J Psychiatry*. 2014; 48(2):116–20. <https://doi.org/10.1177/0004867413502092> PMID: 23969627
40. Vandereycken W. Can eating disorders become ‘contagious’ in group therapy and specialist inpatient care? *European Eating Disorders Review*. 2011; 19: 289–295. <https://doi.org/10.1002/erv.1087> PMID: 21394837
41. Warin M. Reconfiguring relatedness in anorexia. *Anthropology and Medicine*. 2006; 13: 41–54. <https://doi.org/10.1080/13648470500516147> PMID: 26868611
42. Harshbarger JL, Ahlers-Schmidt CR, Mayans L, Mayans D, Hawkins JH. Pro-anorexia websites: what a clinician should know. *Int J Eat Disord*. 2009; 42:367–370. <https://doi.org/10.1002/eat.20608> PMID: 19040264
43. Custers K. The urgent matter of online pro-eating disorder content and children: clinical practice. *Eur J Pediatr*. 2015; 174: 429–433. <https://doi.org/10.1007/s00431-015-2487-7> PMID: 25633580
44. Rouleau CR, von Ranson KM. Potential risks of pro-eating disorder websites. *Clinical Psychology Review*. 2011; 31:525–531. <https://doi.org/10.1016/j.cpr.2010.12.005> PMID: 21272967
45. Bechard B, VanderLaan DP, Wood H, Wasserman L, Zucker KJ. Psychosocial and psychological vulnerability in adolescents with gender dysphoria: a “proof of principle” study. *J Sex Marital Ther*. 2017; 43(7):678–88. <https://doi.org/10.1080/0092623X.2016.1232325> PMID: 27598940
46. Brunsell-Evans Heather and Moore Michele, eds. *Transgender children and young people: born in your own body*, 244. Newcastle upon Tyne, UK: Cambridge scholars Publishing, 2018. Print.
47. Transgender Reality website. <https://transgenderreality.com/about/>. Last accessed 9/26/2017.
48. 4thwavenow (2016, December 26). Retrieved from <https://web.archive.org/web/20161226093345/https://4thwavenow.com/>
49. Transgender Trend (2015, November 22). Home. Retrieved from <https://web.archive.org/web/20151122011724/http://www.transgendertrend.com/>
50. Transgender Trend (2016, July 26). About us. Retrieved from https://web.archive.org/web/20160726021427/http://www.transgendertrend.com/about_us/
51. Youth Trans Critical Professionals (2016, April 5.) About. Retrieved from <https://web.archive.org/web/20160405015522/http://youthtranscriticalprofessionals.org/about/>
52. Parents of Transgender Children Facebook Group. Available from: <https://www.facebook.com/groups/108151199217727/>
53. Vooris JA. *Life uncharted: Parenting transgender, gender-creative and gay children*. PhD Thesis, University of Maryland, College Park. 2016. Available from: https://drum.lib.umd.edu/bitstream/handle/1903/18947/Vooris_umd_0117E_17593.pdf?sequence=1
54. Angello M, Bowman A. *Raising the transgender child: A complete guide for parents, families, and caregivers*. 1st ed. Berkeley: Seal Press; 2016.
55. PFLAG and Trans Youth Education & Support of Colorado (TYES). Colorado Resources for Families of Gender Expansive Youth. Available from https://static1.squarespace.com/static/5b10b6968ab722b1af17a9ca/t/5bd1175ac83025ad6e7aeb8f/1540429660858/PFLAG_TYES_Resources_091916.pdf
56. PFLAG Greater Providence. News and Views; 17, (6): 2016. Available from: https://www.pflagprovidence.org/uploads/2/5/8/1/25814882/2016-12-07_november—december_2016_pflag_newsletter—final.pdf
57. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders* (Fifth ed.). Arlington, VA: American Psychiatric Publishing; 2013.
58. Moore M. Grounded Theory. In: Goodley D, Lawthorn R, Clough P, and Moore M. *Researching Life Stories: Method, Theory and Analyses in a Biographical Age*. London: RoutledgeFalmer; 2004. pp 118–121.
59. The Twice Exceptional Dilemma. National Education Association. 2006. <http://www.nea.org/assets/docs/twiceexceptional.pdf> Last accessed 10/6/17.
60. Copen CE, Chandra A, Febo-Vazquez I. Sexual behavior, sexual attraction, and sexual orientation among adults aged 18–44 in the United States: Data from the 2011–2013 National Survey of Family Growth. *National health statistics reports*; no 88. Hyattsville, MD: National Center for Health Statistics. 2016.
61. Ryan CL, Bauman K. Educational Attainment in the United States: 2015. US Census. <https://www.census.gov/content/dam/Census/library/publications/2016/demo/p20-578.pdf>
62. Wood H, Sasaki S, Bradley SJ, Singh D, Fantus S, Owen-Anderson A, et al. Patterns of referral to a gender identity service for children and adolescents (1976–2011): Age, sex ratio, and sexual orientation

- [Letter to the editor]. *J Sex Marital Ther.* 2013; 39:1–6. <https://doi.org/10.1080/0092623X.2012.675022> PMID: 23152965
63. Delay D, Martin CL, Cook RE, Hanish LD. The influence of peers during adolescence: does homophobic name calling by peers change gender identity?. *J Youth Adolescence.* 2018; 47:636–649.
 64. Marshall E, Claes L, Bouman WP, Witcomb GL, Arcelus J, et al. Non-suicidal self-injury and suicidality in trans people: A systematic review of the literature. *Int Rev Psychiatry* 2016; 28:58–69. <https://doi.org/10.3109/09540261.2015.1073143> PMID: 26329283
 65. Loftus EF, Davis D. Recovered Memories. *Annu. Rev. Clin. Psychol.* 2006; 2:469–98. <https://doi.org/10.1146/annurev.clinpsy.2.022305.095315> PMID: 17716079
 66. Appelbaum PS. Third-party suits against therapists in recovered-memory cases. *Psychiatric Services.* 2001; 52 (1): 27–28. <https://doi.org/10.1176/appi.ps.52.1.27> PMID: 11141524
 67. Brainerd CJ, Reyna VF. False Memory in Psychotherapy In: *The Science of False Memory*, Oxford Psychology Series Number 38. New York: Oxford University Press. 2005. Pp 361–422.
 68. Fiore F, Ruggiero GM, Sassaroli S. Emotional dysregulation and anxiety control in the psychopathological mechanism underlying drive for thinness. *Frontiers in Psychiatry.* 2014; 5 (43): 1–5.
 69. Marzola E, Panepinto C, Delsedime N, Amianto F, Fassino S, Abbate-Daga G. A factor analysis of the meanings of anorexia nervosa: intrapsychic, relational, and avoidant dimensions and their clinical correlates. *BMC Psychiatry.* 2016; 16:190. <https://doi.org/10.1186/s12888-016-0894-6> PMID: 27267935
 70. Halmi KA. Perplexities of treatment resistance in eating disorders. *BMC Psychiatry* 2013; 13:292: 1–6.
 71. Steinhausen HC, Jensen CM. Time trends in lifetime incidence rates of first-time diagnosed anorexia nervosa and bulimia nervosa. *Int. J. Eat. Disord.* 2015; 48:845–850. <https://doi.org/10.1002/eat.22402> PMID: 25809026
 72. Raevuori A, Keski-Rahkonen A, Hoek HW. A review of eating disorders in males. *Curr Opin Psychiatry.* 2014; 27:426–430. <https://doi.org/10.1097/YCO.0000000000000113> PMID: 25226158
 73. Favaro A, Caregaro L, Tenconi E, Bosello R, Santonastaso P. Time trends in age at onset of anorexia nervosa and bulimia nervosa. *J Clin Psychiatry.* 2009; 70:1715–1721. <https://doi.org/10.4088/JCP.09m05176blu> PMID: 20141711
 74. Lopez C, Stahl D, Tchanturia K. Estimated intelligence quotient in anorexia nervosa: a systematic review and meta-analysis of the literature. *Ann Gen Psychiatry* 2010; 9: 40. <https://doi.org/10.1186/1744-859X-9-40> PMID: 21182794
 75. Schilder CMT, van Elburg AA, Snellen WM, Sternheim LC, Hoek HW, Danner UN. Intellectual functioning of adolescent and adult patients with eating disorders. *Int J Eat Disord.* 2017 May; 50(5):481–489. <https://doi.org/10.1002/eat.22594> PMID: 27528419
 76. Guarda AS. Treatment of anorexia nervosa: insights and obstacles. *Physiology & Behavior.* 2008; 94: 113–120.
 77. Olson KR, Durwood L, DeMeules M, McLaughlin KA. Mental health of transgender children who are supported in their identities. *Pediatrics.* 2016; 137: 31–38.
 78. Jones RP, Cox D. Most Americans Favor Rights and Legal Protections for Transgender People. *PRRI.* 2011. Available from <http://www.prr.org/research/american-attitudes-towards-transgender-people/>.

[< Back to Document Comments](#)[Share](#) ▼

PUBLIC SUBMISSION

Comment on FR Doc # 2022-13734

Posted by the **Department of Education** on Sep 15, 2022[Docket](#) / [Document \(ED-2021-OCR-0166-0001\)](#) / [Comment](#)

Comment

Docket ID: ED-2021-OCR-0166

I am writing to convey my opposition to the current proposed amendment to Title IX that purports to add gender identity. This is a very controversial topic and in no way should the government be advocating for a harmful and untested theories regarding transgenderism. I have attached an affidavit by a expert in the field of gender dysphoria or gender confusion. He lists, extensively, the research or lack thereof and the harm to children from schools promoting gender confusion. As a certified teacher, I can not advocate for harm to my students, by participating in and advocating for transgenderism. It is not a scientific reality. XX never equals XY. We also know that many students are desisting and have horrific regrets about the hormone treatments and surgery that will forever alter their lives. They will be suing any entity that has caused this harm or promoted it. The taxpayers should not be "on the hook" for these payouts, so consider this and/or the document attached as personal notice to the Biden Administration that you are personally responsible for any damages that should be granted by a court or jury to a plaintiff.

Give Feedback

Attachments 1

BPJ-v-West-Virginia-State-Board-Ed-2022-02-23-Levine-Expert-Report

[Download](#)

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA
CHARLESTON DIVISION**

B.P.J., by her next friend and mother, HEATHER JACKSON,

Plaintiff,

vs.

WEST VIRGINIA STATE BOARD OF EDUCATION,
et al.,

Defendants,

and

LAINY ARMISTEAD,

Defendant-Intervenor.

Case No. 2:21-cv-00316

Hon. Joseph R. Goodwin

DECLARATION OF STEPHEN B. LEVINE, MD

I, Dr. Stephen B. Levine, pursuant to 28 U.S. Code § 1746, declare under penalty of perjury under the laws of the United States of America that the facts contained in my Expert Report of Stephen B. Levine, MD., in the Case of B.P.J. v. West Virginia State Board of Education, dated February 23, 2022 and attached hereto, are true and correct to the best of my knowledge and belief, and that the opinions expressed therein represent my own expert opinions.

Executed on February 23, 2022.



Stephen B. Levine, MD

Expert Report of

Stephen B. Levine, MD

In the case of B.P.J. vs. West Virginia State Board of Education.

February 23, 2022

TABLE OF CONTENTS

I. CREDENTIALS & SUMMARY	1
II. BACKGROUND ON THE FIELD	8
A. The biological baseline of the binary sexes.....	8
B. Definition and diagnosis of gender dysphoria.....	12
C. Impact of gender dysphoria on minority and vulnerable groups.....	13
D. Three competing conceptual models of gender dysphoria and transgender identity	14
E. Four competing models of therapy	16
III. THERE IS NO CONSENSUS OR AGREED “STANDARD OF CARE” CONCERNING THERAPEUTIC APPROACHES TO CHILD OR ADOLESCENT GENDER DYSPHORIA.....	22
A. Experts and organizations disagree as to whether “distress” is a necessary element for diagnoses that justifies treatment for gender identity issues.	23
B. Opinions and practices vary widely about the utilization of social transition for children and adolescents.....	24
C. The WPATH “Standards of Care” is not an impartial or evidence-based document.	25
D. Opinions and practices differ widely with respect to the proper role of psychological counseling before, as part of, or after a diagnosis of gender dysphoria.	28
E. Opinions and practices vary widely with respect to the administration of puberty blockers and cross-sex hormones.	30
IV. TRANSGENDER IDENTITY IS NOT BIOLOGICALLY BASED.	33
A. No theory of biological basis has been scientifically validated.	34
B. Large changes across time and geography in the epidemiology of transgender identification are inconsistent with the hypothesis of a biological basis for transgender identity.	35
C. Disorders of sexual development (or DSDs) and gender identity are very different phenomena, and it is an error to conflate the two.	38
D. Studies of individuals born with DSDs suggest that there may be a biological predisposition towards <i>typical</i> gender identifications, but provide no support for a biological basis for <i>transgender</i> identification.	39
V. GENDER IDENTITY IS EMPIRICALLY NOT FIXED FOR MANY INDIVIDUALS.	40
A. Most children who experience gender dysphoria ultimately “desist” and resolve to cisgender identification.	40

B. Desistance is increasingly observed among teens and young adults who first manifest GD during or after adolescence.	42
VI. TRANSITION AND AFFIRMATION IS AN IMPORTANT PSYCHOLOGICAL AND MEDICAL INTERVENTION THAT CHANGES GENDER IDENTITY OUTCOMES.	45
A. If both a typical gender or a transgender long-term gender identity outcome are possible for a particular patient, the alternatives are not medically neutral.	45
B. Social transition of young children is a powerful psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance.....	46
C. Administration of puberty blockers is a powerful medical and psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance on the historically observed timeline.....	48
VII. TRANSITION AND AFFIRMATION ARE EXPERIMENTAL THERAPIES THAT HAVE NOT BEEN SHOWN TO IMPROVE MENTAL OR PHYSICAL HEALTH OUTCOMES BY YOUNG ADULTHOOD.	49
A. The knowledge base concerning therapies for gender dysphoria is “very low quality.”	50
B. Youth who adopt a transgender identity show no durable improvement in mental health after social, hormonal, or surgical transition and affirmation.	52
C. Long-term mental health outcomes for individuals who persist in a transgender identity are poor.....	54
VIII. TRANSITION AND AFFIRMATION DO NOT DECREASE, AND MAY INCREASE, THE RISK OF SUICIDE.	56
A. The risk of suicide among transgender youth is confused and exaggerated in the public mind.....	56
B. Transition of any sort has not been shown to reduce levels of suicide.	58
C. Long-term life in a transgender identity correlates with very high rates of completed suicide.	59
IX. HORMONAL INTERVENTIONS ARE EXPERIMENTAL PROCEDURES THAT HAVE NOT BEEN PROVEN SAFE.....	61
A. Use of puberty blockers has not been shown to be safe or reversible for gender dysphoria.	62
B. Use of cross-sex hormones in adolescents for gender dysphoria has not been shown to be medically safe except in the short term.....	66
C. The timing of harms.	70
Bibliography	72

I. CREDENTIALS & SUMMARY

1. I am Clinical Professor of Psychiatry at Case Western Reserve University School of Medicine, and maintain an active private clinical practice. I received my MD from Case Western Reserve University in 1967, and completed a psychiatric residency at the University Hospitals of Cleveland in 1973. I became an Assistant Professor of Psychiatry at Case Western in 1973, became a Full Professor in 1985, and in 2021 was honored to be inducted into the Department of Psychiatry's "Hall of Fame."

2. Since July 1973, my specialties have included psychological problems and conditions relating to individuals' sexuality and sexual relations, therapies for sexual problems, and the relationship between love, intimate relationships, and wider mental health. In 2005, I received the Masters and Johnson Lifetime Achievement Award from the Society of Sex Therapy and Research. I am a Distinguished Life Fellow of the American Psychiatric Association.

3. I have served as a book and manuscript reviewer for numerous professional publications. I have been the Senior Editor of the first (2003), second (2010), and third (2016) editions of the *Handbook of Clinical Sexuality for Mental Health Professionals*. In addition to five previously solo-authored books for professionals, I have recently published *Psychotherapeutic Approaches to Sexual Problems* (2020). The book has a chapter titled "The Gender Revolution."

4. In total I have authored or co-authored over 180 journal articles and book chapters, 20 of which deal with the issue of gender dysphoria. I am an invited member of a Cochrane Collaboration subcommittee that is currently preparing a review of the scientific literature on the effectiveness of puberty blocking hormones and of cross-sex hormones for

gender dysphoria for adolescents. Cochrane Reviews are a well-respected cornerstone of evidence-based practice, comprising a systematic review that aims to identify, appraise, and synthesize all the empirical evidence that meets pre-specified eligibility criteria in response to a particular research question.

5. I first encountered a patient suffering what we would now call gender dysphoria in July 1973. In 1974, I founded the Case Western Reserve University Gender Identity Clinic, and have served as Co-Director of that clinic since that time. Across the years, our Clinic treated hundreds of patients who were experiencing a transgender identity. An occasional child was seen during this era. I was the primary psychiatric caregiver for several dozen of our patients and supervisor of the work of other therapists. I was an early member of the Harry Benjamin International Gender Dysphoria Association (later known as WPATH) and served as the Chairman of the committee that developed the 5th version of its Standards of Care. In 1993 the Gender Identity Clinic was renamed, moved to a new location, and became independent of Case Western Reserve University. I continue to serve as Co-Director.

6. In the course of my five decades of practice treating patients who suffered from gender dysphoria, I have at one time or another recommended or prescribed or supported social transition, cross-sex hormones, and surgery for particular patients, but only after extensive diagnostic and psychotherapeutic work.

7. In 2006, Judge Mark Wolf of the Eastern District of Massachusetts asked me to serve as an independent, court-appointed expert in a litigation involving the treatment of a transgender inmate within the Massachusetts prison system. In that litigation, the U.S. Court of Appeals for the First Circuit in a 2014 (En Banc) opinion cited and relied on my expert

testimony. I have been retained by the Massachusetts Department of Corrections as a consultant on the treatment of transgender inmates since 2007.

8. In 2019, I was qualified as an expert and testified concerning the diagnosis, understanding, developmental paths and outcomes, and therapeutic treatment of transgenderism and gender dysphoria, particularly as it relates to children, in the matter of *In the Interest of J.A.D.Y. and J.U.D.Y.*, Case No. DF-15-09887-S, 255th Judicial District, Dallas County, TX (the “*Younger* litigation”). I have provided expert testimony in other litigation as listed in my curriculum vitae. In 2019, I provided written expert testimony in the landmark case in the United Kingdom; *Bell v. The Tavistock and Portman NHS Foundation Trust*.

9. I am regularly requested to speak on the topic of gender dysphoria and have given countless presentations to academic conferences and Departments of Psychiatry around the country. In May of this year, I will be co-presenting a symposium on the management of adolescent-onset transgender identity at American Psychiatric Association’s Annual Meeting.

10. A fuller review of my professional experience, publications, and awards is provided in my curriculum vitae, a copy of which is attached hereto as Exhibit A.

11. I am being compensated for my time spent in connection with this case at a rate of \$400.00 per hour for consultation and \$500.00 per hour for time spent testifying.

12. I have reviewed the “Declaration and Expert Report of Deanna Adkins, MD,” dated January 21, 2022 (“Adkins”). In that declaration Dr. Adkins makes a variety of statements about gender dysphoria, therapies for gender dysphoria, and outcomes of therapies, which I believe to be inaccurate, or unsupported by scientific evidence. Dr. Adkins is a pediatric endocrinologist. I note with some concern that Dr. Adkins makes a number of sweeping and

purportedly scientific assertions but cites almost no peer-reviewed articles or studies that support her opinions.

13. Based on her declaration, Dr. Adkins' practice is focused on children and adolescents; her CV and declaration do not suggest substantial experience in working with adults or older young adults who are living in a transgender identity, or who suffer from gender dysphoria. (This diagnosis requires "clinically significant" distress.) The wider lifecycle view that derives from experience with these adults (and familiarity with the literature concerning them) provides an important cautionary perspective. The psychiatrist or psychologist treating a trans child or adolescent, of course seeks to make the young patient happy, but the overriding consideration is the creation of a happy, highly functional, mentally healthy person for the next 50 to 70 years of life. I refer to treatment that keeps this goal in view as the "life course" perspective.

14. Dr. Adkins' stated belief that the only way to avoid harm is affirmative care is just one of many questionable assumptions that lack firm scientific foundation. Others that frequently ride along with advocates' convictions about affirmative care include:

- a. A trans identity is immutable;
- b. Trans identities are primarily caused by biological forces;
- c. Gender identity and orientation are distinct stable dimensions of identity;
- d. There are no alternative treatments to affirmative care;
- e. Affirmative care lastingly improves mental health and social function;
- f. Affirmative care reduces the rates of suicidal ideation and suicide;
- g. Young teens can give informed consent for hormones because they know best what will make them happy now and in the future;

h. De-transition of affirmed youth is rare;

i. Associated psychopathology during and after affirmative care is primarily due to minority stress.

15. These assertions are inaccurate or unsupported, for reasons that I explain in this Declaration. I will provide citations to published, peer-reviewed articles that inform my judgments.

16. I have also reviewed the “Expert Report and Declaration of Joshua D. Safer, MD,” dated January 21, 2022 (“Safer”). In that declaration Dr. Safer similarly makes a variety of statements about gender dysphoria, therapies for gender dysphoria, and outcomes of therapies, which I believe to be inaccurate, or unsupported by scientific evidence. Dr. Safer also makes a number of sweeping and purportedly scientific assertions that are not substantiated by peer-reviewed articles or studies.

17. It is also my opinion that a number of Dr. Safer’s assertions are inaccurate or unsupported, for reasons that I explain in this Declaration. Similarly, I will provide citations to published, peer-reviewed articles that inform my judgments.

18. A summary of the key points that I explain in this report is as follows:

a. Sex as defined by biology and reproductive function is clear, binary, and cannot be changed. While hormonal and surgical procedures may enable some individuals to “pass” as the opposite gender during some or all of their lives, such procedures carry with them physical, psychological, and social risks, and no procedures can enable an individual to perform the reproductive role of the opposite sex. (Section II.A.)

b. The diagnosis of “gender dysphoria” encompasses a diverse array of conditions, with widely differing pathways and characteristics depending on age of onset, biological sex, mental health, intelligence, motivations for gender transition, socioeconomic status, country of origin, etc. Data from one population (e.g., adults) cannot be assumed to be applicable to others (e.g., children). (Section II.B.)

c. Among practitioners in the field, there are currently widely varying views concerning both the causes of and appropriate therapeutic response to gender dysphoria in children or adolescents. There are no generally accepted “standards of care” and existing studies do not provide a basis for a scientific conclusion as to which therapeutic response results in the best long-term outcomes for affected individuals. (Section III.)

d. Transgender identity is not biologically based. Rather, gender dysphoria is a psychiatric condition that cannot be identified by any biological test or measurement. (Sections IV.A, IV.B.)

e. Disorders of sexual development (“DSDs”) are biological phenomena. It is an error to conflate and/or scientifically link DSDs with incidents of gender dysphoria. (Sections IV.C, IV.D.)

f. The large majority of children who are diagnosed with gender dysphoria “desist”—that is, their gender dysphoria does not persist—by puberty or adulthood. Desistance is also increasingly observed among teens and young adults who have experienced “rapid onset gender dysphoria” — first manifesting gender dysphoria during or shortly after adolescence. (Section V.A., V.B.)

g. “Social transition” —the active affirmation of transgender identity—in young children is a powerful psychotherapeutic intervention that will substantially reduce the

number of children “desisting” from transgender identity. Therefore, the profound implications of “affirmative” treatment—which include taking puberty blockers and cross-sex hormones—must be taken into account where social transition is being considered. (Section VI.A., VI.B.)

h. Administration of puberty blockers is not a benign “pause” of puberty, but rather a powerful medical and psychotherapeutic intervention that almost invariably leads to persistence in a transgender identity and, ultimately, to the administration of cross-sex hormones. (Section VI.C.)

i. The knowledge base concerning the “affirmative” treatment of gender dysphoria available today has very low scientific quality with many long-term implications remaining unknown. (Section VII.A)

j. There are no studies that show that affirmation of transgender identity in young children reduces suicide or suicidal ideation, or improves long-term outcomes, as compared to other therapeutic approaches. Meanwhile, multiple studies show that adult individuals living transgender lives suffer much higher rates of suicidal ideation, completed suicide, and negative physical and mental health conditions than does the general population. This is true before and after transition, hormones, and surgery. (Section VII.B., VII.C.)

k. In light of what is known and not known about the impact of affirmation on the incidence of suicide, suicidal ideation, and other indicators of mental and physical health, it is scientifically baseless, and therefore unethical, to assert that a child or adolescent who express an interest in a transgender identity will kill him- or herself unless adults and peers affirm that child in a transgender identity. (Section VIII.)

1. Hormonal interventions to treat gender dysphoria are experimental in nature and have not been shown to be safe, but rather put an individual at risk of a wide range of long-term and even life-long harms including: physical health risks; sterilization and the associated emotional response; impaired sexual response; surgical complications and life-long after-care; alienation of family and romantic relationships; elevated mental health risks of depression, anxiety, and substance abuse. (Section IX.)

II. BACKGROUND ON THE FIELD

A. The biological baseline of the binary sexes

19. Dr. Adkins asserts that “the terms biological sex and biological male or female are imprecise and should be avoided.” (Adkins at 10.) Dr. Safer further asserts that the term biological sex “can cause confusion,” and moreover that a person’s sex encompasses gender identity. (Safer at 6.) These statements are untrue. Biological sex is very well defined in all biological sciences including medicine. It is pervasively important in human development throughout the lifecycle.

20. Sex is not “assigned at birth” by humans visualizing the genitals of a newborn; it is not imprecise. Rather, it is clear, binary, and determined at conception. The sex of a human individual at its core structures the individual’s biological reproductive capabilities—to produce ova and bear children as a mother, or to produce semen and beget children as a father. As physicians know, sex determination occurs at the instant of conception, depending on whether a sperm’s X or Y chromosome fertilizes the egg. A publication of the federal government’s National Institute of Health accurately summarizes the scientific facts:

“Sex is a biological classification, encoded in our DNA. Males have XY chromosomes, and females have XX chromosomes. Sex makes us male or female. Every cell in your body has a sex—making up tissues and organs, like your skin, brain, heart, and

stomach. Each cell is either male or female depending on whether you are a man or a woman.” (NIH 2022.)

21. The binary of biological sex is so fundamental and wide-ranging in its effects on human (and mammal) development and physiology that since 2014 the NIH has required all funded research on humans or vertebrate animals to include “sex as a biological variable” and give “adequate consideration of both sexes in experiments.” (NIH 2015). In 2021, the Endocrine Society issued a position paper elaborating on the application of the NIH requirement. The Endocrine Society correctly stated that “Sex is a biological concept . . . all mammals have 2 distinct sexes;” that “biological sex is . . . a fundamental source of intraspecific variation in anatomy and physiology;” and that “In mammals, numerous sexual traits (gonads, genitalia, etc.) that typically differ in males and females are tightly linked to each other because one characteristic leads to sex differences in other traits.” (Bhargava et al. 2021 at 221, 229.)

22. The Endocrine Society emphasized that “The terms sex and gender should not be used interchangeably,” and noted that even in the case of those “rare” individuals who suffer from some defect such that they “possess a combination of male- and female-typical characteristics, those clusters of traits are sufficient to classify most individuals as either biologically male or female.” They concluded, “Sex is an essential part of vertebrate biology, but gender is a human phenomenon. Sex often influences gender, but gender cannot influence sex.” (Bhargava et al. 2021 at 220-221, 228.) For purposes of this litigation, Dr. Bhargava’s statement that gender cannot influence sex is of central importance.

23. As these statements and the NIH requirement suggest, biological sex pervasively influences human anatomy, its development and physiology. This includes, of course, the development of the human brain, in which many sexually dimorphic characteristics have now been identified. In particular, the Endocrine Society and countless other researchers have

determined that human brains undergo particular sex-specific developmental stages during puberty. This predictable developmental process is a genetically controlled coordinated endocrine response that begins with pituitary influences leading to increases in circulating sex hormones. (Bhargava et al. 2021 at 225, 229; Blakemore et al. 2010 at 926-927, 929; NIH 2001.).

24. Humans have viewed themselves in terms of binary sexes since the earliest historical records. Recognizing a concept of “gender identity” as something distinct from sex is a rather recent innovation whose earliest manifestations likely began in the late 1940s. Its usage became common in medicine in the 1980s and subsequently in the larger culture. Definitions of gender have been evolving and remain individual-centric and subjective. In a statement on “Gender and Health,” the World Health Organization defines “gender” as “the characteristics of women, men, girls and boys that are socially constructed” and that “var[y] from society to society and can change over time,” and “gender identity” as referring to “a person’s deeply felt, internal and individual experience of gender.” (WHO Gender and Health.) As these definitions indicate, a person’s “felt” “experience of gender” is inextricably bound up with and affected by societal gender roles and stereotypes—or, more precisely, by the affected individual’s *perception* of societal gender roles and stereotypes and their personal idiosyncratic meanings. Typically, gendered persons also have subtly different, often idiosyncratic, reactions to societal gender roles and stereotypes without preoccupation with changing their anatomy.

25. Thus, the self-perceived gender of a child begins to develop along with the early stages of identity formation generally, influenced in part from how others label the infant: “I love you, son (daughter).” This designation occurs thousands of times in the first two years of life when a child begins to show awareness of the two possibilities. As acceptance of the designated

gender corresponding to the child's sex is the outcome in >99% of children everywhere, anomalous gender identity formation begs for understanding. Is it biologically shaped? Is it biologically determined? Is it the product of how the child was privately regarded and treated? Is it a product of the quality of early life caregiver attachments? Does it stem from trauma-based rejection of maleness or femaleness, and if so, flowing from what trauma? Does it derive from a tense, chaotic interpersonal parental relationship without physical or sexual abuse? Is it a symptom of another, as of yet unrevealed, emotional disturbance or neuropsychiatric condition (autism)? The answers to these relevant questions are not scientifically known but are not likely to be the same for every trans-identified child, adolescent, or adult.

26. Under the influence of hormones secreted by the testes or ovaries, numerous additional sex-specific differences between male and female bodies continuously develop postnatally, culminating in the dramatic maturation of the primary and secondary sex characteristics with puberty. These include differences in hormone levels, height, weight, bone mass, shape, musculature, body fat levels and distribution, and hair patterns, as well as physiological differences such as menstruation and ejaculation. These are genetically programmed biological consequences of sex—the actual meaning of sex over time. Among the consequences of sex is the consolidation of gender identity during and after puberty.

27. Despite the increasing ability of hormones and various surgical procedures to reconfigure some male bodies to visually pass as female, or vice versa, the biology of the person remains as defined by his (XY) or her (XX) chromosomes, including cellular, anatomic, and physiologic characteristics and the particular disease vulnerabilities associated with that chromosomally defined sex. For instance, the XX (genetically female) individual who takes testosterone to stimulate certain male secondary sex characteristics will nevertheless remain

unable to produce sperm and father children. It is certainly true, as Dr. Adkins writes, that “[h]ormone therapy and social transition significantly change a person’s physical appearance.” (Adkins at 8.) But in critical respects this change can only be “skin deep.” Contrary to assertions and hopes that medicine and society can fulfill the aspiration of the trans individual to become “a complete man” or “a complete woman,” this is not biologically attainable. (Levine 2018 at 6; Levine 2016 at 238.) It is possible for some adolescents and adults to pass unnoticed—that is, to be perceived by most individuals as a member of the gender that they aspire to be—but with limitations, costs, and risks, as I detail later.

B. Definition and diagnosis of gender dysphoria

28. Specialists have used a variety of terms over time, with somewhat shifting definitions, to identify and speak about a distressing incongruence between an individual’s genetically determined sex and the gender with which they identify or to which they aspire. Today’s American Psychiatric Association *Diagnostic and Statistical Manual of Mental Disorders* (“DSM-5”) employs the term Gender Dysphoria and defines it with separate sets of criteria for adolescents and adults on the one hand, and children on the other.

29. There are at least five distinct pathways to gender dysphoria: early childhood onset; onset near or after puberty with no prior cross gender patterns; onset after defining oneself as gay for several or more years and participating in a homosexual lifestyle; adult onset after years of heterosexual transvestism; and onset in later adulthood with few or no prior indications of cross-gender tendencies or identity. (Levine 2021.) The early childhood onset pathway and the more recently observed onset around puberty pathway are most relevant to this matter.

30. Gender dysphoria has very different characteristics depending on age and sex at onset. Young children who are living a transgender identity commonly suffer materially fewer symptoms of concurrent mental distress than do older patients. (Zucker 2018 at 10.) The

developmental and mental health patterns for each of these groups are sufficiently different that data developed in connection with one of these populations cannot be assumed to be applicable to another.

31. The criteria used in DSM-5 to identify Gender Dysphoria include a number of signs of discomfort with one's natal sex and vary somewhat depending on the age of the patient, but in all cases require "clinically significant distress or impairment in . . . important areas of functioning" such as social, school, or occupational settings. The symptoms must persist for at least six months.

32. Children who conclude that they are transgender are often unaware of a vast array of adaptive possibilities for how to live life as a man or a woman—possibilities that become increasingly apparent over time to both males and females. A boy or a girl who claims or expresses interest in pursuing a transgender identity often does so based on stereotypical notions of femaleness and maleness that reflect constrictive notions of what men and women can be. (Levine 2017 at 7.) A young child's—or even an adolescent's—understanding of this topic is quite limited. Nor can they grasp what it may mean for their future to be sterile. These children and adolescents consider themselves to be relatively unique; they do not realize that discomfort with the body and perceived social role is neither rare nor new to civilization. What is new is that such discomfort is thought to indicate that they must be a trans person.

C. Impact of gender dysphoria on minority and vulnerable groups

33. Given that, as I discuss later, a diagnosis of gender dysphoria is now frequently putting even young children on a pathway that leads to irreversible physical changes and sterilization by young adulthood, it should be of serious concern to all practitioners that minority and vulnerable groups are receiving this diagnosis at disproportionately high rates. These include: children of color (Rider et al. 2018), children with mental developmental disabilities

(Reisner et al. 2015), children on the autistic spectrum (at a rate more than 7x the general population) (Shumer et al. 2016; van der Miesen et al. 2018), children with ADHD (Becerra-Culqui et al. 2018), children residing in foster care homes, adopted children (at a rate more than 3x the general population) (Shumer et al. 2017), victims of childhood sexual or physical abuse or other “adverse childhood events” (Thoma 2021 et al.; Newcomb et al. 2020; Kozłowska et al. 2021), children with a prior history of psychiatric illness (Edwards-Leeper et al. 2017; Kaltiala-Heino et al. 2015; Littman 2018), and more recently adolescent girls (in a large recent study, at a rate more than 2x that of boys) (Rider et al. 2018 at 4).

D. Three competing conceptual models of gender dysphoria and transgender identity

34. Discussions about appropriate responses by mental health professionals (“MHPs”) to actual or sub-threshold gender dysphoria are complicated by the fact that various speakers and advocates (or a single speaker at different times) view transgenderism through at least three very different paradigms, often without being aware of, or at least without acknowledging, the distinctions.

35. Gender dysphoria is **conceptualized and described by some professionals and laypersons as though it were a serious, physical medical illness that causes suffering,** comparable to diseases that are curable before it spreads, such as melanoma or sepsis. Within this paradigm, whatever is causing distress associated with gender dysphoria—whether secondary sex characteristics such as facial hair, nose and jaw shape, presence or absence of breasts, or the primary anatomical sex organs of testes, ovaries, penis, or vagina—should be removed to alleviate the illness. The promise of these interventions is the cure of the gender dysphoria.

36. Dr. Adkins appears to endorse this perspective, asserting that gender dysphoria is a “medical condition.” (Adkins at 4.) It should be noted, however, that gender dysphoria is a psychiatric, not a medical, diagnosis. Since its inception in DSM-III in 1983, it has always been specified in the psychiatric DSM manuals and has not been specified in medical diagnostic manuals. Notably, gender dysphoria is the only psychiatric condition to be treated by surgery, even though no endocrine or surgical intervention package corrects any identified biological abnormality. (Levine 2016 at 240.)

37. Gender dysphoria is alternatively **conceptualized in developmental terms**, as an adaptation to a psychological problem that may have been first manifested as a failure to establish a comfortable conventional sense of self in early childhood. This paradigm starts from the premise that all human lives are influenced by past processes and events. Trans lives are not exceptions to this axiom. (Levine 2016 at 238.) MHPs who think of gender dysphoria through this paradigm may work both to identify and address causes of the basic problem of the deeply uncomfortable self or a sense of self impaired by later adversity or abuse. The purpose is to ameliorate suffering when the underlying problem cannot be solved. MHPs first work with the patient and (ideally) family to learn about the events and processes that may have led to the trans person repudiating the gender associated with his sex. The developmental paradigm is mindful of temperamental, parental bonding, psychological, sexual, and physical trauma influences, and the fact that young children work out their psychological issues through fantasy and play and adolescents work out their issues by adopting various interests and identity labels.

38. There is evidence among adolescents that peer social influences through “friend groups” (Littman 2018) or through the internet can increase the incidence of gender dysphoria or claims of transgender identity. Responsible MHPs will want to probe these potential influences

to better understand what is truly deeply tied to the psychology of the patient, and what may instead be being “tried on” by the youth as part of the adolescent process of self-exploration and self-definition.

39. In addition, the developmental paradigm recognizes that, with the important exception of genetic sex, essentially all aspects of an individual’s identity evolve—often markedly—across the individual’s lifetime. This includes gender. Some advocates assert that a transgender identity is biologically caused, fixed from early life, and eternally present in an unchanging manner. As I review later, however, this assertion is not supported by science.¹

40. The third paradigm through which gender dysphoria is alternatively conceptualized is from **a sexual minority rights perspective**. Under this paradigm, any response other than medical and societal affirmation and implementation of a patient’s claim to “be” the opposite gender is a violation of the individual’s civil right to self-expression. Any effort to ask “why” questions about the patient’s condition, or to address underlying causes, is viewed as a violation of autonomy and civil rights. In the last few years, this paradigm has been successful in influencing public policy and the education of pediatricians, endocrinologists, and many mental health professionals. Obviously, however, this is not a medical or psychiatric perspective. Unfortunately, it appears to be the most powerful perspective that exists in the public, non-scientific debate.

E. Four competing models of therapy

41. Few would disagree that the human psyche is complex. Few would disagree that children’s and adolescents’ developmental pathways typically have surprising twists and turns. The complexity and unpredictability of childhood and adolescent development equally applies to

¹ Even the advocacy organization The Human Rights Campaign asserts that a person can have “a fluid or unfixed gender identity.” <https://www.hrc.org/resources/glossary-of-terms>.

trans-identifying youth. Because of past difficulties of running placebo-controlled clinical trials in the transgender treatment arena, substantial disagreements among professionals about the causes of trans identities and their ideal treatments exist. These current disagreements might have been minimized if trans treated persons were carefully followed up to determine long term outcomes. They have not been. When we add to this to the very different current paradigms for understanding transgender phenomena, it is not scientifically surprising that disagreements are sharply drawn. It is with this in mind that I summarize below the leading approaches, and offer certain observations and opinions concerning them.

(1) The “watchful waiting” therapy model

42. In Section V.A below I review the uniform finding of eleven follow-up studies that the large majority of children who present with gender dysphoria will desist from desiring a transgender identity by adulthood if left untreated by social transition approaches.

43. When a pre-adolescent child presents with gender dysphoria, a “watchful waiting” approach seeks to allow for the fluid nature of gender identity in children to naturally evolve—that is, take its course from forces within and surrounding the child. Watchful waiting has two versions:

- a. Treating any other psychological co-morbidities—that is, other mental illnesses as defined by DSM-5 (separation anxiety disorder, attention deficit hyperactivity disorder, autism spectrum disorder, obsessive compulsive disorder, etc), or subthreshold for diagnosis but behavioral problems that the child may exhibit (school avoidance, bedwetting, inability to make friends, aggression/defiance) without a focus on gender (**model #1**); and
- b. No treatment at all for anything but a regular follow-up appointment. This might be labeled a “hands off” approach (**model #2**).

(2) The psychotherapy model: Alleviate distress by identifying and addressing causes (model #3)

44. One of the foundational principles of psychotherapy has long been to work with a patient to identify the causes of observed psychological distress and then to address those causes as a means of alleviating the distress. The National Institute of Mental Health has promulgated the idea that 75% of adult psychopathology has its origins in childhood experience.

45. Many experienced practitioners in the field of gender dysphoria, including myself, have believed that it makes sense to employ these long-standing tools of psychotherapy for patients suffering gender dysphoria, asking the question as to what factors in the patient's life are the determinants of the patient's repudiation of his or her natal sex. (Levine 2017 at 8; Levine 2021.) I and others have reported success in alleviating distress in this way for at least some patients, whether the patient's sense of discomfort or incongruence with his or her natal sex entirely disappeared or not. Relieving accompanying psychological co-morbidities leaves the patient freer to consider the pros and cons of transition as he or she matures.

46. Among other things, the psychotherapist who is applying traditional methods of psychotherapy may help—for example—the male patient appreciate the wide range of masculine emotional and behavioral patterns as he grows older. He may discuss with his patient, for example, that one does not have to become a “woman” in order to be kind, compassionate, caring, noncompetitive, to love the arts, and to be devoted to others' feelings and needs. (Levine 2017 at 7.) Many biologically male trans individuals, from childhood to older ages, speak of their perceptions of femaleness as enabling them to discuss their feelings openly, whereas they perceive boys and men to be constrained from emotional expression within the family and larger culture, and to be aggressive. Men, of course, can be emotionally expressive, just as they can

wear pink. Converse examples can be given for girls and women. These types of ideas regularly arise during psychotherapies.

47. As I note above, many gender-nonconforming children and adolescents in recent years derive from minority and vulnerable groups who have reasons to feel isolated and have an uncomfortable sense of self. A trans identity may be a hopeful attempt to redefine the self in a manner that increases their comfort and decreases their anxiety. The clinician who uses traditional methods of psychotherapy may not focus on their gender identity, but instead work to help them to address the actual sources of their discomfort. Success in this effort may remove or reduce the desire for a redefined identity. This often involves a focus on disruptions in their attachment to parents in vulnerable children, for instance, those in the foster care system.

48. Because “watchful waiting” can include treatment of accompanying psychological co-morbidities, and the psychotherapist who hopes to relieve gender dysphoria may focus on potentially causal sources of psychological distress rather than on the gender dysphoria itself, there is no sharp line between “watchful waiting” and the psychotherapy model in the case of prepubescent children.

49. To my knowledge, there is no evidence beyond anecdotal reports that psychotherapy can enable a return to male identification for genetically male boys, adolescents, and men, or return to female identification for genetically female girls, adolescents, and women. On the other hand, anecdotal evidence of such outcomes does exist; I and other clinicians have witnessed reinvestment in the patient’s biological sex in some individual patients who are undergoing psychotherapy. The Internet contains many such reports, and I have published a paper on a patient who sought my therapeutic assistance to reclaim his male gender identity after 30 years living as a woman and is in fact living as a man today. (Levine 2019.) I have seen

children desist even before puberty in response to thoughtful parental interactions and a few meetings of the child with a therapist. There are now a series of articles and at least one major book on the psychological treatment of adolescents. (D’Angelo et al. 2021 at 7-16; Evans & Evans 2021.)

(3) The affirmation therapy model (model #4)

50. While it is widely agreed that the therapist should not directly challenge a claimed transgender identity in a child, some advocates and practitioners go much further, and promote and recommend that any expression of transgender identity should be immediately accepted as decisive, and thoroughly affirmed by means of consistent use of clothing, toys, pronouns, etc., associated with transgender identity. They argue that the child should be comprehensively re-socialized in grade school in their aspired-to gender. As I understand it, this is asserted as a reason why male students who assert a female gender identity must be permitted to compete in girls’ or women’s athletic events. These advocates treat any question about the causes of the child’s transgender identification as inappropriate. They may not recognize the child’s ambivalence. They assume that observed psychological co-morbidities in the children or their families are unrelated or will get better with transition, and need not be addressed by the MHP who is providing supportive guidance concerning the child’s gender identity.

51. Some advocates, indeed, assert that unquestioning affirmation of any claim of transgender identity in children is essential, and that the child will otherwise face a high risk of suicide or severe psychological damage. Dr. Adkins appears to follow this line, asserting that “My clinical experience . . . has been that [patients] suffer and experience worse health outcomes” when they are not permitted to enter all spaces and participate in all activities in a manner “consistent with gender identity.” (Adkins at 9.) This claim is simply not supported by the clinical data we have available to us. Indeed, available long-term data contradicts Dr.

Adkins' claim. I address physical and mental health outcomes in Section VII below, and suicide in Section VIII below.

52. Dr. Adkins also asserts that fully supported social transition is the “only treatment for prepubertal children.” (Adkins at 6.) As I review in the next section, this is not correct. This may be the only treatment that Dr. Adkins considers, but my own conversations and contacts lead me to believe that Dr. James Cantor was correct when he wrote that “almost all clinics and professional associations in the world” do not use “gender affirmation” for prepubescent children and instead “delay any transitions after the onset of puberty.” (Cantor 2019 at 1.)

53. I do not know what proportion of practitioners are using which model. However, in my opinion, in the case of young children, prompt and thorough affirmation of a transgender identity disregards the principles of child development and family dynamics and is not supported by science. Instead of science, this approach is currently being reinforced by an echo-chamber of approval from other like-minded child-oriented professionals who do not sufficiently consider the known negative medical and psychiatric outcomes of trans adults. Rather than recommend social transition in grade school, the MHP must focus attention on the child's underlying internal and familial issues. Ongoing relationships between the MHP and the parents, and the MHP and the child, are vital to help the parents, child, other family members, and the MHP to understand over time the issues that need to be dealt with by each of them.

54. Likewise, since the child's sense of gender develops in interaction with his parents and their own gender roles and relationships, the responsible MHP will almost certainly need to delve into family and marital dynamics.

III. THERE IS NO CONSENSUS OR AGREED “STANDARD OF CARE” CONCERNING THERAPEUTIC APPROACHES TO CHILD OR ADOLESCENT GENDER DYSPHORIA.

55. Dr. Adkins states that “[t]he only treatment to avoid [] serious harm is to recognize the gender identity of patients with gender dysphoria and follow appropriate treatment protocols to affirm gender identity and alleviate distress,” and appears to believe that transition and affirmation of children who suffer from gender dysphoria is a generally accepted “standard of care.” (Adkins at 5.) It is not.

56. As I review in separate sections later, there is far too little firm clinical evidence in this field to permit any evidence-based standard of care. Given the lack of scientific evidence, it is neither surprising nor improper that—as I detailed in Section II—there is a diversity of views among practitioners as to as to the best therapeutic response for the child, adolescent, or young adult who suffers from gender dysphoria. Dr. Adkins is unwittingly confusing therapeutic precedent among those who agree with her views, armed with ideas promulgated by WPATH, with careful scientific documentation of her concepts. She presumes that her views have been scientifically established even though much has been published highlighting the lack of supportive definitive evidence.

57. Reviewing the state of opinion and practice in 2021, the Royal Australian and New Zealand College of Psychiatrists observed that “There are polarised views and mixed evidence regarding treatment options for people presenting with gender identity concerns, especially children and young people.” (RANZCP, 2021.) Similarly, a few years earlier prominent Dutch researchers noted: “[T]here is currently no general consensus about the best approach to dealing with the (uncertain) future development of children with GD, and making decisions that may influence the function and/or development of the child — such as social

transition.” (Ristori & Steensma 2016 at 18.)² In this Section, I comment on some of the more important areas of disagreement within the field.

A. Experts and organizations disagree as to whether “distress” is a necessary element for diagnoses that justifies treatment for gender identity issues.

58. As outlined in Section II.B above, “clinically significant distress” is one of the criteria used in DSM-5 to identify gender dysphoria. This indicates a heightened level of distress that rises beyond a threshold level of social awkwardness or discomfort with the changing body. It is known that many trans-identified youth with incongruence between their sexed bodies and their gender identity choose not to take hormones; their incongruence is quite tolerable as they further clarify their sexual identity elements. This population raises the questions of what distress is being measured when DSM-5 criteria are met and what else might be done about it.

59. I note that there is no “clinically significant distress” requirement in World Health Organization’s International Classification of Diseases (ICD-11) criteria for gender incongruence, which rather indicates “a marked and persistent incongruence between an individual’s experienced gender and the assigned sex.” (World Health Organization 2019.)

60. Therefore, even between these two committee-based authorities, there is a significant disagreement as to what constitutes a gender condition justifying life-changing interventions. To my knowledge, some American gender clinics and practitioners are essentially operating under the ICD-11 criteria rather than the APA’s DSM-5 criteria, prescribing transition for children, hormonal interventions for slightly older children, and different hormones for adolescents who assert a desire for a transgender identity whether or not they are exhibiting “clinically significant distress.” Others adhere to the DSM-5 diagnostic standard.

² See also Zucker 2020 which questions the merit of social transition as a first-line treatment.

61. I will add that even from within one “school of thought,” such as embodied by Dr. Adkins, it is not responsible to make a single, categorical statement about the proper treatment of children or adolescents presenting with gender dysphoria or other gender-related issues. There is no single pathway to the development of a trans identity and no reasonably uniform short- or long-term outcome of medically treating it. As individuals grow physically, mature psychologically, and experience or fail to experience satisfying romantic relationships, their life course depends on their differing psychological, social, familial, and life experiences. There should be no trust in assertions that trans identified youth must be treated in a particular manner to avoid harm for two reasons: first, there is no systematic data on the nature of, and the rate of harms of either affirmative treatment, no treatment, or psychological only treatment. Second, as in other youthful psychiatric and other challenges, outcomes vary.

B. Opinions and practices vary widely about the utilization of social transition for children and adolescents.

62. Dr. Adkins notes that she is a member of the World Professional Association for Transgender Health (WPATH), invokes a guidance document that that organization has chosen to publish under the title of “standards of care,” and asserts that the WPATH Standards of Care are “widely accepted.” (Adkins at 3, 5.) Below, I will provide some explanation of WPATH and its “Standards of Care,” which are not the product of a strictly scientific organization, and are by no means accepted by all or even most practitioners as setting out best practices.

63. Here, however, I will note that WPATH does not take a position concerning whether or when social transition may be appropriate for pre-pubertal children. Instead, the WPATH “Standards of Care” states that the question of social transition for children is a “controversial issue” and calls for mental health professionals to support families in what it describes as “difficult decisions” concerning social transition.

64. Dr. Erica Anderson is a prominent practitioner in this area who identifies as a transgender woman, who was the first transgender president of USPATH, and who is a former board member of WPATH. Dr. Anderson recently resigned from those organizations and has condemned automatic approval of transition upon the request of a child or adolescent, noting that “adolescents . . . are notoriously susceptible to peer influence,” that transition “doesn’t cure depression, doesn’t cure anxiety disorders, doesn’t cure autism-spectrum disorder, doesn’t cure ADHD,” and instead that “a comprehensive biopsychosocial evaluation” should proceed allowing a child to transition. (Davis 2022.) And as I have explained previously, my own view based on 50 years of experience in this area favors strong caution before approving life-altering interventions such as social transition, puberty blockers, or cross-sex hormones.

C. The WPATH “Standards of Care” is not an impartial or evidence-based document.

65. Because WPATH is frequently cited by advocates of social, hormonal, and surgical transition, I provide some context concerning that private organization and its “Standards of Care.”

66. I was a member of the Harry Benjamin International Gender Dysphoria Association from 1974 until 2001. From 1997 through 1998, I served as the Chairman of the eight-person International Standards of Care Committee that issued the fifth version of the Standards of Care. I resigned my membership in 2002 due to my regretful conclusion that the organization and its recommendations had become dominated by politics and ideology, rather than by scientific process, as it was years earlier. In approximately 2007, the Harry Benjamin International Gender Dysphoria Association changed its name to the World Professional Association for Transgender Health.

67. WPATH is a voluntary membership organization. Since at least 2002, attendance at its biennial meetings has been open to trans individuals who are not licensed professionals. While this ensures taking patients' needs into consideration, it limits the ability for honest and scientific debate, and means that WPATH can no longer be considered a purely professional organization.

68. WPATH takes a decided view on issues as to which there is a wide range of opinion among professionals. WPATH explicitly views itself as not merely a scientific organization, but also as an advocacy organization. (Levine 2016 at 240.) WPATH is supportive to those who want sex reassignment surgery ("SRS"). Skepticism as to the benefits of SRS to patients, and strong alternate views, are not well tolerated in discussions within the organization or their educational outreach programs. Such views have been known to be shouted down and effectively silenced by the large numbers of nonprofessional adults who attend the organization's biennial meetings. Two groups of individuals that I regularly work with have attended recent and separate WPATH continuing education sessions. There, questions about alternative approaches were quickly dismissed with "There are none. This is how it is done." Such a response does not accurately reflect what is known, what is unknown, and the diversity of clinical approaches in this complex field.

69. The Standards of Care ("SOC") document is the product of an effort to be balanced, but it is not politically neutral. WPATH aspires to be both a scientific organization and an advocacy group for the transgendered. These aspirations sometimes conflict. The limitations of the Standards of Care, however, are not primarily political. They are caused by the lack of rigorous research in the field, which allows room for passionate convictions on how to care for the transgendered. And, of course, once individuals have socially, medically, and surgically

transitioned, WPATH members and the trans people themselves at the meetings are committed to supporting others in their transitions. Not only have some trans participants been distrustful or hostile to those who question the wisdom of these interventions, their presence makes it difficult for professionals to raise their concerns. Vocal trans rights advocates have a worrisome track record of attacking those who have alternative views. (Dreger 2015.)

70. In recent years, WPATH has fully adopted some mix of the medical and civil rights paradigms. It has downgraded the role of counseling or psychotherapy as a requirement for these life-changing processes. WPATH no longer considers preoperative psychotherapy to be a requirement. It is important to WPATH that the person has gender dysphoria; the pathway to the development of this state is not. (Levine 2016 at 240.) The trans person is assumed to have thoughtfully considered his or her options before seeking hormones, for instance.

71. Most psychiatrists and psychologists who treat patients suffering sufficiently severe distress from gender dysphoria to seek inpatient psychiatric care are not members of WPATH. Many psychiatrists, psychologists, and pediatricians who treat some patients suffering gender dysphoria on an outpatient basis are not members of WPATH. WPATH represents a self-selected subset of the profession along with its many non-professional members; it does not capture the clinical experiences of others. WPATH claims to speak for the medical profession; however, it does not welcome skepticism and therefore, deviates from the philosophical core of medical science. There are pediatricians, psychiatrists, endocrinologists, and surgeons who object strongly, on professional grounds, to transitioning children and providing affirmation in a transgender identity as the first treatment option. WPATH does not speak for all of the medical profession.

72. In 2010 the WPATH Board of Directors issued a statement advocating that incongruence between sex and felt gender identity should cease to be identified in the DSM as a pathology.³ This position was debated but not adopted by the (much larger) American Psychiatric Association, which maintained the definitions and diagnoses of gender dysphoria as a pathology in the DSM-5 manual issued in 2013.

73. In my experience some current members of WPATH have little ongoing experience with the mentally ill, and many trans care facilities are staffed by MHPs who are not deeply experienced with recognizing and treating frequently associated psychiatric co-morbidities. Further, being a mental health professional, per se, does not guarantee experience and skill in recognizing and effectively intervening in serious or subtle patterns. Because the 7th version of the WPATH SOC deleted the requirement for therapy, trans care facilities that consider these Standards sufficient are permitting patients to be counseled to transition by means of social presentation, hormones, and surgery by individuals with masters rather than medical degrees.

D. Opinions and practices differ widely with respect to the proper role of psychological counseling before, as part of, or after a diagnosis of gender dysphoria.

74. In Version 7 of its Standards of Care, released in 2012, WPATH downgraded the role of counseling or psychotherapy, and the organization no longer sees psychotherapy without transition and hormonal interventions as a potential path to eliminate gender dysphoria by enabling a patient to return to or achieve comfort with the gender identity aligned with his or her biology.

³ WPATH *De-Psychopathologisation Statement* (May 26, 2010), available at wpath.org/policies (last accessed January 21, 2020).

75. Around the world, many prominent voices and practitioners disagree. For example, renowned gender therapists Dr. Laura Edwards-Leeper and Dr. Erica Anderson (who, as mentioned above, identifies as a transgender woman) have recently spoken out arguing that children and adolescents are being subjected to puberty blockers and hormonal intervention far too quickly, when careful and extended psychotherapy and investigation for potential causes of feelings of dysphoria (such as prior sexual abuse) should be the first port of call and might resolve the dysphoria. (Edwards-Leeper & Anderson 2021; Davis 2022.)

76. In a recently published position statement on gender dysphoria, the Royal Australian and New Zealand College of Psychiatrists emphasized the critical nature of mental health treatment for gender dysphoric minors, stressing “the importance of the psychiatrist’s role to undertake thorough assessment and evidence-based treatment ideally as part of a multidisciplinary team, especially highlighting co-existing issues which may need addressing and treating.” The Royal College also emphasized the importance of assessing the “psychological state and context in which Gender Dysphoria has arisen,” before any treatment decisions are made. (RANZCP, 2021.)

77. Dr. Paul Hruz of the University of Washington St. Louis Medical School has noted, “The WPATH has rejected psychological counseling as a viable means to address sex–gender discordance with the claim that this approach has been proven to be unsuccessful and is harmful (Coleman et al. 2012). Yet the evidence cited to support this assertion, mostly from case reports published over forty years ago, includes data showing patients who benefited from this approach (Cohen-Kettenis and Kuiper 1984).” (Hruz 2020.)

E. Opinions and practices vary widely with respect to the administration of puberty blockers and cross-sex hormones.

78. There is likewise no broadly accepted standard of care with respect to use of puberty blockers. The WPATH Standards of Care explicitly recognize the lack of any consensus on this important point, stating: “Among adolescents who are referred to gender identity clinics, the number considered eligible for early medical treatment—starting with GnRH analogues to suppress puberty in the first Tanner stages—differs among countries and centers. Not all clinics offer puberty suppression. . . The percentages of treated adolescents are likely influenced by the organization of health care, insurance aspects, cultural differences, opinions of health professionals, and diagnostic procedures offered in different settings.”

79. The use of puberty blockers as a therapeutic intervention for gender dysphoria is often justified by reference to the seminal work of a respected Dutch research team that developed a protocol that administered puberty blockers to children no younger than age 14. However, it is well known that many clinics in North America now administer puberty blockers to children at much younger ages than the “Dutch Protocol” allows. (Zucker 2019.) The Dutch protocol only treated children with these characteristics: a stable cross gender identity from early childhood; dysphoria that worsened with the onset of puberty; were otherwise psychologically healthy; had healthy families; the patient and family agreed to individual and family counselling throughout the protocol. But the experience and results of the Dutch model is being used as a justification for giving puberty blockers to children who differ considerably from these criteria. Its authors have also recently noted this fact. (de Vries 2020.)

80. However, Zucker notes that “it is well known” that clinicians are administering cross-sex hormones, and approving surgery, at ages lower than the minimum age thresholds set by that “Dutch Protocol.” (Zucker 2019 at 5.)

81. Similarly, at least one prominent clinic—that of Dr. Safer at Columbia’s Mt. Sinai Medical Center—is quite openly admitting patients for even *surgical* transition who are not eligible under the criteria set out in WPATH’s Standards of Care. A recent study published by Dr. Safer and colleagues revealed that of a sample of 139 individuals, 45% were eligible for surgery “immediately” under the center’s own criteria, while only 15% were eligible under WPATH’s criteria. That is, *three times* as many patients immediately qualified for surgery under the center’s loose standards than would have qualified under WPATH criteria. (Lichenstein et al. 2020.)

82. Internationally, there has been a recent marked trend *against* use of puberty blockers, as a result of extensive evidence reviews by national medical bodies, which I discuss later. The main gender clinic in Sweden has declared that it will no longer authorize use of puberty blockers for minors below the age of 16. Finland has similarly reversed its course, issuing new guidelines that allow puberty blockers only on a case-by-case basis after an extensive psychiatric assessment. A landmark legal challenge against the UK’s National Health Service in 2020 by “detransitioner” Keira Bell led to the suspension of the use of puberty blockers and new procedures to ensure better psychological care, as well as prompting a thorough evidence review by the National Institute for Health and Care Excellence (NICE 2021a; NICE 2021b).⁴

83. In this country, some voices in the field are now publicly arguing that *no* comprehensive mental health assessment at all should be required before putting teens on puberty blockers or cross-sex hormones (Ghorayshi 2022), while Dr. Anderson and Dr.

⁴ The decision requiring court approval for administration of hormones to any person younger than age 16 was later reversed on procedural grounds by the Court of Appeal and is currently under consideration by the UK Supreme Court.

Edwards-Leeper argue that U.S. practitioners are already moving too quickly to hormonal interventions. (Edwards-Leeper & Anderson 2021; Davis 2022.) It is evident that opinions and practices are all over the map.

84. It is true that a committee of the American Academy of Pediatrics has issued a statement supporting administration of puberty blockers to children diagnosed with gender dysphoria. It is also true that no other American medical association has endorsed the use of puberty blockers, and that pediatricians are neither endocrinologists nor psychiatrists. Dr. James Cantor published a peer-reviewed paper detailing that the Academy's statement is not evidence-based and misdescribed the few scientific sources it did reference. (Cantor 2019.) It has been well noted in the field that the AAP has declined invitations to publish any rebuttal to Dr. Cantor's analysis. But this is all part of ongoing debate, simply highlighting the absence of any generally agreed standard of care.

85. Dr. Adkins asserts that the Society's 2017 Practice Guidelines on Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons (Hembree et al. 2017) amount to "widely accepted standards of care" that were "developed through rigorous scientific processes." (Adkins at 2, 5 and 6.)

86. Contrary to Dr. Adkins' assertion, the 2017 Endocrine Society Guidelines themselves expressly state that they are *not* "standards of care." The document states: "The guidelines cannot guarantee any specific outcome, *nor do they establish a standard of care*. The guidelines are not intended to dictate the treatment of a particular patient." (Hembree et al. 2017 at 3895 (emphasis added).) Nor do the Guidelines claim to be the result of a "rigorous scientific process." Rather, they expressly advise that their recommendations concerning use of puberty blockers are based only on "low quality" evidence.

87. Dr. Adkins notes that the 2017 Guidelines assert that: “patients with gender dysphoria often must be treated with ‘a safe and effective hormone regimen. . .’” (Adkins at 6.) Notably, however, the Guidelines do not make any firm statement that use of puberty blockers for this purpose *is* safe, and the Guidelines go no further than “suggest[ing]” use of puberty blockers—language the Guidelines warn represents only a “weak recommendation.” (Hembree 2017 at 3872.) Several authors have pointed out that not only were the Endocrine Society suggestions regarding use of puberty blockers reached on the basis of “low quality” evidence, but its not-quite claims of ‘safety’ and ‘efficacy’ are starkly contradicted by several in-depth evidence reviews. (Laidlaw et al., 2019; Malone et al. 2021.) I detail these contradictory findings in more detail in Section VII below.

88. While there is too little meaningful clinical data and no consensus concerning best practices or a “standard of care” this area, there are long-standing ethical principles that do or should bind all medical and mental health professionals as they work with, counsel, and prescribe for these individuals.

89. One of the oldest and most fundamental principles guiding medical and psychological care—part of the Hippocratic Oath—is that the physician must “do no harm.” This states an ethical responsibility that cannot be delegated to the patient. Physicians themselves must weigh the risks of treatment against the harm of not treating. If the risks of treatment outweigh the benefits, principles of medical ethics prohibit the treatment.

IV. TRANSGENDER IDENTITY IS NOT BIOLOGICALLY BASED.

90. Dr. Safer asserts that “Although the detailed mechanisms are unknown, there is a medical consensus that there is a significant biologic component underlying gender identity” and

that gender identity is a “largely biological phenomenon.” (Safer at 5, 6.) Many advocates of affirmative care assert this belief.

91. However, it is not true. There is no medical consensus that transgender identity has any biological basis. Furthermore, there is considerable well-documented evidence that is inconsistent with the hypothesis of a biological basis for gender identity—at least in the large majority of currently-presenting patients.

A. No theory of biological basis has been scientifically validated.

92. At the outset, the attempt to identify a single “typically . . . biological” cause for psychiatric conditions (including gender dysphoria) has been strongly criticized as “out of step with the rest of medicine” and as a lingering “ghost” of an understanding of the nature of psychiatric conditions that is now broadly disproven. (Kendler 2019 at 1088-1089.) Gender dysphoria is defined and diagnosed only as a psychiatric, not a medical, condition.

93. Nonetheless, in a published article, Dr. Safer has referred to data that he asserts supports the existence of “a fixed, biologic basis for gender identity.” (Saraswat et al. 2015 at 199.) But on the contrary, this article itself states that studies attempting to find an association between genetics and transgender identification “have been contradictory,” and that “no statistically significant association between particular genes [and transgender identity] has been described.” (Saraswat 2015 at 202.)

94. Similarly, while some have pointed to very small brain scan studies as evidence of a biological basis, no studies of brain structure of individuals identifying as transgender have found any statistically significant correlation between any distinct structure or pattern and transgender identification, after controlling for sexual orientation and exposure to exogenous hormones. (Sarawat et al. 2015 at 202; Frigerio et al. 2021.)

95. Indeed, the Endocrine Society 2017 Guidelines recognizes: “With current knowledge, we cannot predict the psychosexual outcome for any specific child” and “there are currently no criteria to identify the GD/gender-incongruent children to whom this applies. At the present time, clinical experience suggests that persistence of GD/gender incongruence can only be reliably assessed after the first signs of puberty.” (Hembree et al. 2017 at 3876.)

96. In short, no biological test or measurement has been identified that provides any ability to predict which children will exhibit, and which children will persist in, gender dysphoria or a transgender identification. Unless and until such a test is identified, the theory of a biological basis is a hypothesis still searching for support. A hypothesis is not a fact, and responsible scientists will not confuse hypothesis with fact.

B. Large changes across time and geography in the epidemiology of transgender identification are inconsistent with the hypothesis of a biological basis for transgender identity.

97. In fact, there is substantial evidence that the “biological basis” theory is incorrect, at least with respect to the large majority of patients presenting with gender dysphoria today.

98. **Vast changes in incidence:** Historically, there were very low reported rates of gender dysphoria or transgender identification. In 2013, the DSM-5 estimated the incidence of gender dysphoria in adults to be at 2-14 per 100,000, or between 0.002% and 0.014%. (APA 2013 at 454.) Recently however, these numbers have increased dramatically, particularly in adolescent populations. Recent surveys estimate that between 2-9% of high school students self-identify as transgender or “gender non-conforming.” with a significantly large increase in adolescents claiming “nonbinary” gender identity as well. (Johns et al. 2019; Kidd et al. 2021.) Consistent with these surveys, gender clinics around the world have seen numbers of referrals increase rapidly in the last decade, with the Tavistock clinic in London seeing a 30-fold increase in the last decade (GIDS 2019), and similar increases being observed in Finland (Kaltiala-Heino

et al. 2018), the Netherlands (de Vries 2020), and Canada (Zucker 2019). The rapid change in the number of individuals experiencing gender dysphoria points to social and cultural, not biological, causes.

99. **Large change in sex ratio:** In recent years there has been a marked shift in the sex ratio of patients presenting with gender dysphoria or transgender identification. The Tavistock clinic in London saw a ratio of 4 biological females(F):5 biological males(M) shift to essentially 11F:4M in a decade. (GIDS 2019.) One researcher summarizing multiple sources documented a swing of 1F:2M or 1F:1.4M through 2005 to 2F:1M generally (but as high as 7F:1M) in more recent samples. (Zucker 2019 at 2.) This phenomenon has been noted by Dr. Erica Anderson, who said: “The data are very clear that adolescent girls are coming to gender clinics in greater proportion than adolescent boys. And this is a change in the last couple of years. And it’s an open question: What do we make of that? We don’t really know what’s going on. And we should be concerned about it.” (Davis 2022.) Again, this large and rapid change in who is experiencing gender dysphoria points to social, not biological, causes.

100. **Clustering:** Dr. Littman’s recent study documented “clustering” of new presentations of gender dysphoria among natal females in specific schools and among specific friend groups. This again points strongly to social causes for gender dysphoria at least among the adolescent female population. (Littman 2018.)

101. **Desistance:** As I discuss later, there are very high levels of desistance among children diagnosed with gender dysphoria, as well as increasing (or at least increasingly vocal) numbers of individuals who first asserted a transgender identity during or after adolescence, underwent substantial medical interventions to “affirm” that trans-identity, and then “desisted”

and reverted to a gender identity congruent with their sex. (See Section V.B below.) These narratives, too, point to a social and/or psychological cause, rather than a biological one.

102. **“Fluid” gender identification:** Advocates and some practitioners assert that gender identity is not binary, but can span an almost endless range of gender identity self-labels, which a given individual may try on, inhabit, and often discard. (A recent article identifies 72.⁵) I have not heard any theory offered for how there is or could be a biological basis for gender identity as now expansively defined.

103. I frequently read attempts to explain away the points in this Section IV. They include: these problems always existed, but children are now learning that there are effective treatments for their dilemma and are simply seeking them. And; children have hidden their trans identity throughout childhood and now that trans people are recognized and accepted, they are presenting themselves. And; now pediatricians realize that girls can have gender dysphoria and are referring them to gender clinics. But these are all mere hypotheses unsupported by concrete evidence. One set of unproven hypotheses cannot provide support for the unproven hypothesis of biological basis. And none of these hypotheses could even potentially explain the failure of science thus far to identify any predictive biological marker of transgender identification.

104. **Therapies affect gender identity outcomes:** Finally, the evidence shows that therapeutic choices can have a powerful effect on whether and how gender identity does change, or gender dysphoria desists. Social transition of juveniles, for instance, strongly influences gender identity outcomes to such an extent that it has been described a “unique predictor of

⁵ Allarakha, *What Are the 72 Other Genders?*, MedicineNet, available at: https://www.medicinenet.com/what_are_the_72_other_genders/article.htm

persistence.” (See Section V.B below.) Again, this observation cuts against the hypothesis of biological origin.

C. Disorders of sexual development (or DSDs) and gender identity are very different phenomena, and it is an error to conflate the two.

105. Dr. Adkins spends much of her report discussing individuals who suffer from disorders of sexual development (DSDs), apparently as evidence that sex is not binary or clearly defined, or as somehow supporting the idea that transgender identification has a biological basis. (Adkins at 9.) I have extensively detailed that sex is clear, binary, and determined at conception. (Section II.) Here I explain that gender dysphoria is an entirely different phenomenon than DSDs—which unlike transgender identity are indeed biological phenomena. It is an error to conflate the two distinct concepts.

106. Every DSD reflects a genetic enzymatic defect with negative anatomic and physiological consequences. As the Endocrine Society recognized in a 2021 statement: “Given the complexities of the biology of sexual determination and differentiation, it is not surprising that there are dozens of examples of variations or errors in these pathways associated with genetic mutations that are now well known to endocrinologists and geneticists; in medicine, these situations are generally termed *disorders of sexual development* (DSD) or *differences in sexual development*.” Gender Identity on the other hand is uniformly defined as a subjective “sense” of being, a feeling or state of mind. (Section II.C.)

107. The vast majority of those who experience gender dysphoria or a transgender identity do not suffer from any DSD, nor from any genetic enzymatic disorder at all. Conversely, many who suffer from a DSD do not experience a gender identity different from their chromosomal sex (although some may). In short, those who suffer from gender dysphoria are not a subset of those who suffer from a DSD, nor are those who suffer from a DSD a subset of those

who suffer from gender dysphoria. The two are simply different phenomena, one physical, the other mental, defined only as a psychiatric condition. The issue here is not whether biological forces play a role in personality development; it is whether there is strong evidence that it is determinative. Science has come too far to revert to single explanations for gender dysphoria or any psychiatric diagnosis.

108. The importance of this distinction is evident from the scientific literature. For example, in a recent study of clinical outcomes for gender dysphoric patients, Tavistock Clinic researchers *excluded* from their analysis any patients who did not have “normal endocrine function and karyotype consistent with birth registered sex.” (Carmichael et al. 2021 at 4.) In other words, the researchers specifically *excluded* from their study anyone who suffered from genetic-based DSD, or a DSD comprising any serious defect in hormonal use pathways, in order to ensure the study was focused only on individuals experiencing the psychological effects of what we might call “ordinary” gender dysphoria.

D. Studies of individuals born with DSDs suggest that there may be a biological predisposition towards *typical* gender identifications, but provide no support for a biological basis for *transgender* identification.

109. Studies of individuals born with serious DSDs have been pointed to as evidence of a biological basis for transgender identification. They provide no such support.

110. One well-known study by Meyer-Bahlburg reviewed the case histories of a number of XY (i.e. biologically male) individuals born with severe DSDs who were surgically “feminized” in infancy and raised as girls. (Meyer-Bahlburg 2005.) The majority of these individuals nevertheless later adopted male gender identity—suggesting a strong biological predisposition towards identification aligned with genetic sex, even in the face of feminized genitalia from earliest childhood, and parental “affirmation” in a transgender identity. But at the same time, the fact that some of these genetically male individuals did *not* later adopt male

gender identity serves as evidence that medical and social influences can indeed encourage and sustain transgender identification.

111. Importantly, the Meyer-Bahlburg study did *not* include any individuals who were assigned a gender identity congruent with their genetic sex who subsequently adopted a transgender identity. Therefore, the study can provide no evidence of any kind that supports the hypothesis of a biological basis for transgender identity. A second study in this area (Reiner & Gearhart 2004) likewise considered exclusively XY subjects, and similarly provides evidence only for a biological bias towards a gender identity congruent with one's genetic sex, even in the face of medical and social "transition" interventions. None of this provides any evidence at all of a biological basis for transgender identity.

V. GENDER IDENTITY IS EMPIRICALLY NOT FIXED FOR MANY INDIVIDUALS.

112. Dr. Safer states that gender identity is "durable and cannot be changed by medical intervention." (Safer at 5.) Dr. Adkins likewise states that gender identity "cannot be voluntarily changed." (Adkins at 4.) There is extensive evidence that this is not correct. Instead, gender identity changes over time for many individuals.⁶ I summarize their two opinions as: they assert that a trans identity in a child or adolescent is immutable—unchangeable by medical, psychotherapeutic, or developmental processes.

A. Most children who experience gender dysphoria ultimately "desist" and resolve to cisgender identification.

113. A distinctive and critical characteristic of juvenile gender dysphoria is that multiple studies from separate groups and at different times have reported that in the large

⁶ See n1 *supra*.

majority of patients, absent a substantial intervention such as social transition or puberty blocking hormone therapy, it does *not* persist through puberty.

114. A recent article reviewed all existing follow-up studies that the author could identify of children diagnosed with gender dysphoria (11 studies), and reported that “every follow-up study of GD children, without exception, found the same thing: By puberty, the majority of GD children ceased to want to transition.” (Cantor 2019 at 1.) Another author reviewed the existing studies and reported that in “prepubertal boys with gender discordance . . . the cross gender wishes usually fade over time and do not persist into adulthood, with only 2.2% to 11.9% continuing to experience gender discordance.” (Adelson et al. 2012 at 963; see also Cohen-Kettinis 2008 at 1895.) The Endocrine Society recognized this important baseline fact in its 2017 Guidelines. (Hembree 2017 at 3879.) It should be noted that the reason that the Dutch Protocol waited until age 14 to initiate puberty blockers was that it was well known that many children would desist if left free of hormonal intervention until that age.

115. Findings of high levels of desistance among children who experience gender dysphoria or incongruence have been reaffirmed in the face of critiques through thorough reanalysis of the underlying data. (Zucker 2018.)

116. As I explained in detail in Section IV above, it is not yet known how to distinguish those children who will desist from that small minority whose trans identity will persist.

117. It does appear that prevailing circumstances during particularly formative years can have a significant impact on the outcome of a juvenile’s gender dysphoria. A 2016 study reviewing the follow-up literature noted that “the period between 10 and 13 years” was “crucial” in that “both persisters and desisters stated that the changes in their social environment, the

anticipated and actual feminization or masculinization of their bodies, and the first experiences of falling in love and sexual attraction in this period, contributed to an increase (in the persisters) or decrease (in the desisters) of their gender related interests, behaviors, and feelings of gender discomfort.” (Ristori & Steensma 2016 at 16.) As I discuss in Section VI below, there is considerable evidence that early transition and affirmation causes far more children to persist in a transgender identity.

B. Desistance is increasingly observed among teens and young adults who first manifest GD during or after adolescence.

118. Desistance within a relatively short period may also be a common outcome for post-pubertal youths who exhibit recently described “rapid onset gender disorder.” I have observed an increasingly vocal online community of young women who have reclaimed a female identity after claiming a male gender identity at some point during their teen years, and young “detransitioners” (individuals in the process of reidentifying with their birth sex after having undergone a gender transition) are now receiving increasing attention in both clinical literature and social media channels. (It is my understanding that March 12, 2022, is scheduled to be Detransition Awareness Day.)

119. Almost all scientific articles on this topic have appeared within the last few years. Perhaps this historic lack of coverage is not entirely surprising – one academic who undertook an extensive review of the available scientific literature in 2021 noted that the phenomenon was “socially controversial” in that it “poses significant professional and bioethical challenges for those clinicians working in the field of gender dysphoria.” (Expósito Campos 2021 at 270.) This review reported on multifarious reasons for why individuals were motivated to detransition, which included coming to “understand[] how past trauma, internalized sexism, and other psychological difficulties influenced the experience of GD.”

120. In 2021, Lisa Littman of Brown University conducted a ground-breaking study of 100 teenage and young adults who had transitioned and lived in a transgender identity for a number of years, and then “detransitioned” or changed back to a gender identity matching their sex. Littman noted that the “visibility of individuals who have detransitioned is new and may be rapidly growing.” (Littman 2021 at 1.) Of the 100 detransitioners included in Littman’s study, 60% reported that their decision to detransition was motivated (at least in part) by the fact that they had become more comfortable identifying as their natal sex, and 38% had concluded that their gender dysphoria was caused by something specific such as trauma, abuse, or a mental health condition. (Littman 2021 at 9.)

121. A significant majority (76%) did not inform their clinicians of their detransition. (Littman 2021 at 11.)

122. A similar study that recruited a sample of 237 detransitioners (the large majority of whom had initially transitioned in their teens or early twenties) similarly reported that a common reason for detransitioning was the subject’s conclusion that his or her gender dysphoria was related to other issues (70% of the sample). (Vandenbussche 2021.)

123. The existence of increasing numbers of youth or young adult detransitioners has also been recently noted by Dr. Edwards-Leeper and Dr. Anderson. (Edwards-Leeper & Anderson 2021.) Edwards-Leeper and Anderson noted “the rising number of detransitioners that clinicians report seeing (they are forming support groups online)” which are “typically youth who experienced gender dysphoria and other complex mental health issues, rushed to medicalize their bodies and regretted it.” Other clinicians working with detransitioners have also noted the recent phenomenon. (Marchiano 2020.)

124. A growing body of evidence suggests that for many teens and young adults, a post-pubertal onset of transgender identification can be a transient phase of identity exploration, rather than a permanent identity, as evidenced by a growing number of young detransitioners (Entwistle 2020; Littman 2021; Vandebussche 2021). Previously, the rate of detransition and regret was reported to be very low, although these estimates suffered from significant limitations and were likely undercounting true regret (D'Angelo 2018). As gender-affirmative care has become popularized, the rate of detransition appears to be accelerating.

125. A recent study from a UK adult gender clinic observed that 6.9% of those treated with gender-affirmative interventions detransitioned within 16 months, and another 3.4% had a pattern of care suggestive of detransition, yielding a rate of probable detransition in excess of 10%. Another 21.7%, however, disengaged from the clinic without completing their treatment plan. While some of these individuals later re-engaged with the gender service, the authors concluded, “detransitioning might be more frequent than previously reported.” (Hall et al. 2021).

126. Another study from a UK primary care practice found that 12.2% of those who had started hormonal treatments either detransitioned or documented regret, while the total of 20% stopped the treatments for a wider range of reasons. The mean age of their presentation with gender dysphoria was 20, and the patients had been taking gender-affirming hormones for an average 5 years (17 months-10 years) prior to discontinuing. Comparing these much higher rates of treatment discontinuation and detransition to the significantly lower rates reported by the older studies, the researchers noted: “Thus, the detransition rate found in this population is novel and questions may be raised about the phenomenon of overdiagnosis, overtreatment, or iatrogenic harm as found in other medical fields” (Boyd et al. 2022 at 15.) Indeed, given that regret may take up to 8-11 years to materialize (Dhejne et al., 2014; Wiepjes et al., 2018), many more

detransitioners are likely to emerge in the coming years. Detransitioner research is still in its infancy, but the Littman and Vandebussche studies in 2021 both report that detransitioners from the recently transitioning cohorts feel they were rushed into medical gender-affirmative interventions with irreversible effects, often without the benefit of appropriate, or in some instances any, psychologic exploration.

VI. TRANSITION AND AFFIRMATION IS AN IMPORTANT PSYCHOLOGICAL AND MEDICAL INTERVENTION THAT CHANGES GENDER IDENTITY OUTCOMES.

A. If both a typical gender or a transgender long-term gender identity outcome are possible for a particular patient, the alternatives are not medically neutral.

127. Where a juvenile experiences gender dysphoria, the gender identity that is stabilized will have a significant impact on the course of their life. Living in a transgender identity for a time will make desistance, if it is ever considered, more difficult to accomplish.

128. If the juvenile desists from the gender dysphoria and becomes reasonably comfortable with a gender identity congruent with their sex—the most likely outcome from a statistical perspective absent affirming intervention—the child will not require ongoing pharmaceutical maintenance and will not have their fertility destroyed post-puberty.

129. However, if the juvenile persists in a transgender identity, under current practices, the child is most likely to require regular administration of hormones for the rest of their lives, exposing them to significant physical, mental health, and relational risks (which I detail in Section IX below), as well as being irreversibly sterilized chemically and/or surgically. The child is therefore rendered a “patient for life” with complex medical implications further to a scientifically unproven course of treatment.

B. Social transition of young children is a powerful psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance.

130. Dr. Adkins asserts that social transition is a “a critical part” of the treatment of gender dysphoria. (Adkins at 6, 7). Rather, social transition has a critical *effect* on the persistence of gender dysphoria. It is evident from the scientific literature that engaging in therapy that encourages social transition before or during puberty—which would include participation on athletic teams designated for the opposite sex—is a psychotherapeutic intervention that dramatically changes outcomes. A prominent group of authors has written that “The gender identity affirmed during puberty appears to predict the gender identity that will persist into adulthood.” (Guss et al. 2015 at 421.) Similarly, a comparison of recent and older studies suggests that when an “affirming” methodology is used with children, a substantial proportion of children who would otherwise have desisted by adolescence—that is, achieved comfort identifying with their natal sex—instead persist in a transgender identity. (Zucker 2018 at 7.)

131. Indeed, a review of multiple studies of children treated for gender dysphoria across the last three decades found that early social transition to living as the opposite sex severely reduces the likelihood that the child will revert to identifying with the child’s natal sex, at least in the case of boys. That is, while, as I review above, studies conducted before the widespread use of social transition for young children reported desistance rates in the range of 80-98%, a more recent study reported that fewer than 20% of boys who engaged in a partial or complete social transition before puberty had desisted when surveyed at age 15 or older. (Zucker 2018 at 7⁷; Steensma et al. 2013.)⁸ Another researcher observed that a partial or complete gender

⁷ Zucker found social transition by the child to be strongly correlated with persistence for natal boys, but not for girls. (Zucker 2018 at 5.)

⁸ Only 2 (3.6%) of 56 of the male desisters observed by Steensma et al. had made a complete or partial transition prior to puberty, and of the twelve males who made a complete or

social transition prior to puberty “proved to be a unique predictor of persistence.” (Singh et al. 2021 at 14.)

132. Some vocal practitioners of prompt affirmation and social transition even proudly claim that essentially *no* children who come to their clinics exhibiting gender dysphoria or cross-gender identification desist in that identification and return to a gender identity consistent with their biological sex.⁹ This is a very large change as compared to the desistance rates documented apart from social transition.

133. Even voices generally supportive of prompt affirmation and social transition are acknowledging a causal connection between social transition and this change in outcomes. As the Endocrine Society recognized in its 2017 Guidelines: “If children have completely socially transitioned, they may have great difficulty in returning to the original gender role upon entering puberty. . . [S]ocial transition (in addition to GD/gender incongruence) has been found to contribute to the likelihood of persistence.” (Hembree et al. 2017 at 3879.) The fact is that these unproven interventions with the lives of kids and their families have systematically documented outcomes. Given this observed phenomenon, I agree with Dr. Ken Zucker who has written that social transition in children must be considered “a form of psychosocial treatment.” (Zucker 2020 at 1.)

134. Moreover, as I review below, social transition cannot be considered or decided alone. Studies show that engaging in social transition starts a juvenile on a “conveyor belt” path

partial transition prior to puberty, only two had desisted when surveyed at age 15 or older. Steensma 2013 at 584.

⁹ See, e.g., Ehrensaft 2015 at 34: “In my own clinical practice . . . of those children who are carefully assessed as transgender and who are allowed to transition to their affirmed gender, we have no documentation of a child who has ‘desisted’ and asked to return to his or her assigned gender.”

that almost inevitably leads to the administration of puberty blockers, which in turn almost inevitably leads to the administration of cross-sex hormones. The emergence of this well-documented path means that the implications of taking puberty blockers *and* cross-sex hormones must be taken into account even where “only” social transition is being considered or requested by the child or family. As a result, there are a number of important “known risks” associated with social transition.

C. Administration of puberty blockers is a powerful medical and psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance on the historically observed timeline.

135. Dr. Adkins speaks of the use of puberty blockers as though this major hormonal disruption of some of the most basic aspects of ordinary human development were entirely benign, acting as a “pause.” (Adkins at 7.) This optimistic view is not based on science. In fact, it should be understood that puberty blockers are usually administered to early-stage adolescents as part of a path that includes social transition. Moreover, medicine does not know what the long-term health effects on bone, brain, and other organs are of a “pause” between ages 11-16. Medicine also does not know if the long-term effects of these compounds are different in boys than in girls. The mental health professional establishment likewise does not know the long-term effects on coping skills, interpersonal comfort, and intimate relationships of this “pause” while one’s peers are undergoing their maturational gains in these vital arenas of future mental health. I address medical, social, and mental health risks associated with the use of puberty blockers in Section IX. Here, I note that the data strongly suggests that the administration of puberty blockers, too, must be considered to be a component of a “psychosocial treatment” with complex implications, rather than a “pause.”

136. Multiple studies show that the large majority of children who begin puberty blockers go on to receive cross-sex hormones. (de Vries 2020 at 2.) A recent study by the

Tavistock and Portman NHS Gender Identity Development Service (UK)—the world’s largest gender clinic—found that 98% of adolescents who underwent puberty suppression continued on to cross-sex hormones. (Carmichael et al 2021 at 12.)¹⁰

137. These studies demonstrate that going on puberty blockers virtually eliminates the possibility of desistance in juveniles. Rather than a “pause,” puberty blockers appear to act as a psychosocial “switch,” decisively shifting many children to a persistent transgender identity. Therefore, as a practical and ethical matter the decision to put a child on puberty blockers must be considered as the equivalent of a decision to put that child on cross-sex hormones, with all the considerations and informed consent obligations implicit in that decision.

VII. TRANSITION AND AFFIRMATION ARE EXPERIMENTAL THERAPIES THAT HAVE NOT BEEN SHOWN TO IMPROVE MENTAL OR PHYSICAL HEALTH OUTCOMES BY YOUNG ADULTHOOD.

138. It is undisputed that children and adolescents who present with gender dysphoria exhibit a very high level of mental health comorbidities. (Section II.C.) Whether the gender dysphoria is cause or effect of other diagnosed or undiagnosed mental health conditions, or whether these are merely coincident comorbidities, is hotly disputed, but the basic fact is not.

139. Dr. Adkins asserts that when the “transition, affirmation, and hormones” therapy that she advocates is followed, “gender dysphoria is easily managed” (Adkins at 5), implying that transition and hormone therapy have been proven to be effective in relieving gender dysphoria and the general mental health distress that broadly afflicts these children and adolescents. This is scientifically incorrect. It ignores both what is known and what is unknown.

¹⁰ See also Brik 2020 where Dutch researchers found nearly 97% of adolescents who received puberty blockers proceeded to cross-sex hormones.

A. The knowledge base concerning therapies for gender dysphoria is “very low quality.”

140. At the outset, it is important for all sides to admit that the knowledge base concerning the causes and treatment of gender dysphoria has low scientific quality.

141. In evaluating claims of scientific or medical knowledge, it is axiomatic in science that no knowledge is absolute, and to recognize the widely accepted hierarchy of reliability when it comes to “knowledge” about medical or psychiatric phenomena and treatments. Unfortunately, in this field opinion is too often confused with knowledge, rather than clearly locating what exactly is scientifically known. In order of increasing confidence, such “knowledge” may be based upon data comprising:

a. Expert opinion—it is perhaps surprising to educated laypersons that expert opinion standing alone is the lowest form of knowledge, the least likely to be proven correct in the future, and therefore does not garner as much respect from professionals as what follows;

b. A single case or series of cases (what could be called anecdotal evidence) (Levine 2016 at 239.);

c. A series of cases with a control group;

d. A cohort study;

e. A randomized double-blind clinical trial;

f. A review of multiple trials;

g. A meta-analysis of multiple trials that maximizes the number of patients treated despite their methodological differences to detect trends from larger data sets.

142. Prominent voices in the field have emphasized the severe lack of scientific knowledge in this field. The American Academy of Child and Adolescent Psychiatry has

recognized that “Different clinical approaches have been advocated for childhood gender discordance. . . . There have been no randomized controlled trials of any treatment. . . . [T]he proposed benefits of treatment to eliminate gender discordance . . . must be carefully weighed against . . . possible deleterious effects.” (Adelson et al. at 968–69.) Similarly, the American Psychological Association has stated, “because no approach to working with [transgender and gender nonconforming] children has been adequately, empirically validated, consensus does not exist regarding best practice with pre-pubertal children.” (APA 2015 at 842.)

143. Critically, “there are no randomized control trials with regard to treatment of children with gender dysphoria.” (Zucker 2018 at 8.) On numerous critical questions relating to cause, developmental path if untreated, and the effect of alternative treatments, the knowledge base remains primarily at the level of the practitioner’s exposure to individual cases, or multiple individual cases. As a result, claims to certainty are not justifiable. (Levine 2016 at 239.)

144. Within the last two years, at least three formal evidence reviews concerning hormonal interventions for gender dysphoria have been conducted. All three found all of the available clinical evidence to be very low quality.

145. The British National Health Service (NHS) commissioned formal “evidence reviews” of all clinical papers concerning the efficacy and safety of puberty blockers and cross-sex hormones as treatments for gender dysphoria. These evidence reviews were performed by the U.K. National Institute for Health and Care Excellence (NICE), applying the respected “GRADE” criteria for evaluating the strength of clinical evidence.

146. Both the review of evidence concerning puberty blockers and the review of evidence concerning cross-sex hormones were published in 2020, and both found that *all* available evidence as to both efficacy and safety was “very low quality” according to the

GRADE criteria. (NICE 2021a; NICE 2021b.) “Very low quality” according to GRADE means there is a high likelihood that the patient *will not experience* the hypothesized benefits of the treatment. (Balshem et al. 2011.)

147. Similarly, the highly respected Cochrane Library—the leading source of independent systematic evidence reviews in health care—commissioned an evidence review concerning the efficacy and safety of hormonal treatments now commonly administered to “transitioning transgender women” (i.e., testosterone suppression and estrogen administration to biological males). That review, also published in 2020, concluded that “We found insufficient evidence to determine the efficacy or safety of hormonal treatment approaches for transgender women in transition.” (Haupt et al. 2020 at 2.) It must be understood that both the NICE and the Cochrane reviews considered *all* published scientific studies concerning these treatments.

148. As to social transition, as I have noted above, considerable evidence suggests that socially transitioning a pre-pubertal child puts him or her on a path from which very few children escape—a path which includes puberty blockers and cross-sex hormones before age 18. As a practical matter, then, a decision about social transition for a child must be made in light of what is known and what is unknown about the effects of those expected hormonal interventions.

149. I discuss safety considerations in Section IX below. Here, I detail what is known about the effectiveness of social and hormonal transition and affirmation to improve the mental health of individuals diagnosed with gender dysphoria.

B. Youth who adopt a transgender identity show no durable improvement in mental health after social, hormonal, or surgical transition and affirmation.

150. As I noted above, the evidence reviews for the efficacy and safety of hormonal interventions published in 2020 concluded that the supporting evidence is so poor that there is “a

high likelihood that the patient will not experience the hypothesized benefits of the treatment.”

There is now some concrete evidence that on average they do not experience those benefits.

151. An important paper published in 2021 by Tavistock clinic clinicians provided the results of the first longitudinal study that measured widely used metrics of general psychological function and suicidality before commencement of puberty blockers, and then at least annually after commencing puberty blockers. After up to three years, they “found no evidence of change in psychological function with GnRHa treatment as indicated by parent report (CBCL) or self-report (YSR) of overall problems, internalizing or externalizing problems or self-harm” as compared to the pre-puberty-blocker baseline evaluations. “Outcomes that were not formally tested also showed little change.” (Carmichael et al. 2021 at 18-19.) Similarly, a study by Branström and Pachankis of the case histories of a set of individuals diagnosed with GD in Sweden found no positive effect on mental health from hormonal treatment. (Landen 2020.)

152. A cohort study by authors from Harvard and Boston Children’s Hospital found that youth and young adults (ages 12-29) who self-identified as transgender had an elevated risk of depression (50.6% vs. 20.6%) and anxiety (26.7% vs. 10.0%); a higher risk of suicidal ideation (31.1% vs. 11.1%), suicide attempts (17.2% vs. 6.1%), and self-harm without lethal intent (16.7% vs. 4.4%) relative to the matched controls; and a significantly greater proportion of transgender youth accessed inpatient mental health care (22.8% vs. 11.1%) and outpatient mental health care (45.6% vs. 16.1%) services. (Reisner et al. 2015 at 6.) Similarly, a recent longitudinal study of transgender and gender diverse youth and young adults in Chicago found rates of alcohol and substance abuse “substantially higher than those reported by large population-based studies of youth and adults.” (Newcomb et al. 2020 at 14.) Members of the clinical and research team at the prominent Dutch VU University gender dysphoria center recently compared mental

health metrics of two groups of subjects before (mean age 14.5) and after (mean age 16.8) puberty blockers. But they acknowledged that the structure of their study meant that it “can . . . not provide evidence about . . . long-term mental health outcomes,” and that based on what continues to be extremely limited scientific data, “Conclusions about the long-term benefits of puberty suppression should . . . be made with extreme caution.” In other words, we just don’t know. (van der Miesen et al. 2020 at 703.)

153. Kiera Bell, who was diagnosed with gender dysphoria at the Tavistock Clinic, given cross-sex hormones, and subjected to a mastectomy, before desisting and reclaiming her female gender identity, and a Swedish teen girl who appeared in a recent documentary after walking that same path, have both stated that they feel that they were treated “like guinea pigs,” experimental subjects. They are not wrong.

C. Long-term mental health outcomes for individuals who persist in a transgender identity are poor.

154. The responsible MHP cannot focus narrowly on the short-term happiness of the young patient, but must instead consider the happiness and health of the patient from a “life course” perspective. When we look at the available studies of individuals who continue to inhabit a transgender identity across adult years, the results are strongly negative.

155. In the United States, the death rates of trans veterans are comparable to those with schizophrenia and bipolar diagnoses—20 years earlier than expected. These crude death rates include significantly elevated rates of substance abuse as well as suicide. (Levine 2017 at 10.) Similarly, researchers in Sweden and Denmark have reported on almost all individuals who underwent sex-reassignment surgery over a 30-year period. (Dhejne et al. 2011; Simonsen et al. 2016.) The Swedish follow-up study similarly found a suicide rate in the post-SRS population

19.1 times greater than that of the controls; both studies demonstrated elevated mortality rates from medical and psychiatric conditions. (Levine 2017 at 10.)

156. A recent study in the American Journal of Psychiatry reported high mental health utilization patterns of adults for ten years after surgery for approximately 35% of patients. (Bränström & Panchankis, 2020.) Indeed, earlier Swedish researchers in a long-term study of all patients provided with SRS over a 30-year period (median time since SRS of > 10 years) concluded that individuals who have SRS exhibit such poor mental health that they should be provided very long-term psychiatric care as the “final” transition step of SRS. (Dhejne et al. 2011, at 6-7.) Unfortunately, across the succeeding decade, in Sweden and elsewhere their suggestion has been ignored.

157. I will note that these studies do not tell us whether the subjects first experienced gender dysphoria as children, adolescents, or adults, so we cannot be certain how their findings apply to each of these subpopulations which represent quite different pathways. But in the absence of knowledge, we should be cautious.

158. Meanwhile, no studies show that affirmation of pre-pubescent children or adolescents leads to more positive outcomes (mental, physical, social, or romantic) by, e.g., age 25 or older than does “watchful waiting” or ordinary therapy.

159. The many studies that I have cited here warn us that as we look ahead to the patient’s life as a young adult and adult, the prognosis for the physical health, mental health, and social well-being of the child or adolescent who transitions to live in a transgender identity is not good. Gender dysphoria is not “easily managed” when one understands the marginalized, vulnerable physical, social, and psychological status of adult trans populations.

VIII. TRANSITION AND AFFIRMATION DO NOT DECREASE, AND MAY INCREASE, THE RISK OF SUICIDE.

A. The risk of suicide among transgender youth is confused and exaggerated in the public mind.

160. While suicide is closely linked to mental health, I comment on it separately because rhetoric relating to suicide figures so prominently in debates about responses to gender dysphoria.

161. At the outset, I will note that any discussion of suicide when considering younger children involves very long-range and very uncertain prediction. Suicide in pre-pubescent children is extremely rare, and the existing studies of gender identity issues in pre-pubescent children do not report significant incidents of suicide. Any suggestion otherwise is misinformed. Our focus for this topic, then, is on adolescents and adults.

162. Some authors have reported rates of suicidal thoughts and behaviors among trans-identifying teens or adults ranging from 25% to as high as 52%, generally through non-longitudinal self-reports obtained from non-representative survey samples. (Toomey et al. 2018.) Dr. Adkins asserted in her declaration submitted in support of Plaintiff's preliminary injunction motion that "Attempted suicide rates in the transgender community are over 40%," and that "[t]he only treatment to avoid this serious harm is to . . . affirm gender identity." (Adkins at 6.) Contrary to these assertions, no studies show that affirmation of children (or anyone else) reduces suicide, prevents suicidal ideation, or improves long-term outcomes, as compared to either a "watchful waiting" or a psychotherapeutic model of response, as I have described above. Rhetorical references to figures such as 40%—and some published studies—confuse suicidal thoughts and actions that represent a cry for help, manipulation, or expression of rage with serious attempts to end life. Such statements or studies ignore a crucial and long-recognized distinction.

163. I have included suicidality in my discussion of mental health above. Here, I focus on actual suicide. Too often, in public comment suicidal thoughts are blurred with suicide. Yet the available data tells us that suicide among children and youth suffering from gender dysphoria is extremely rare.

164. An important new analysis of data covering patients as well as those on the waiting list (and thus untreated) at the UK Tavistock gender clinic—the world’s largest gender clinic—found a total of only four completed suicides across 11 years’ worth of patient data, reflecting an estimated cumulative 30,000 patient-years spent by patients under the clinic’s care or on its waiting list. This corresponded to an annual suicide rate of 0.013%. The proportion of individual patients who died by suicide was 0.03%, which is orders of magnitude smaller than trans adolescents who self-report suicidal behavior or thoughts on surveys. (Biggs 2022b.)

165. Thus, only a minute fraction of trans-identifying adolescents who report thoughts or conduct considered to represent “suicidality” actually commit suicide. I agree with the statement by Dr. Zucker that the assertion by, for example, Karasic and Ehrensaft (2015) that completed suicides among transgender youth are “alarmingly high” “has no formal and systematic empirical basis.” (Zucker 2019 at 3.)

166. Professor Biggs of Oxford, author of the study of incidence of suicide among Tavistock clinic patients, rightly cautions that it is “irresponsible to exaggerate the prevalence of suicide.” (Biggs 2022b at 4.) It is my opinion that telling parents—or even allowing them to believe from their internet reading—that they face a choice between “a live son or a dead daughter” is both factually wrong and unethical. Informed consent requires clinicians to tell the truth and ensure that their patients understand the truth. To be kind, the clinicians who believe

such figures represent high risk of ultimate suicide in adolescence simply do not know the truth; they are ill-informed.

B. Transition of any sort has not been shown to reduce levels of suicide.

167. Every suicide is a tragedy, and steps that reduce suicide should be adopted. I have noted above that suicidality (that is, suicidal thoughts or behaviors, rather than suicide) is common among transgender adolescents and young adults before, during, and after social and medical transition. If a medical or mental health professional believes that an individual he or she is diagnosing or treating for gender dysphoria presents a suicide risk, in my view it is unethical for that professional merely to proceed with treatment for gender dysphoria and hope that “solves the problem.” Rather, that professional has an obligation to provide or refer the patient for evidence-based therapies for addressing depression and suicidal thoughts that are well-known to the profession. (Levine 2016 at 242.)

168. This is all the more true because there is in fact no evidence that social and/or medical transition reduces the risk or incidence of actual suicide. On the contrary, in his analysis of those who were patients of or on the waiting list of the Tavistock clinic, Professor Biggs found that the suicide rate was not higher among those on the clinic’s waiting list (and thus as-yet untreated), than for those who were patients under care. (Biggs 2022b.) And as corrected, Bränström and Pachankis similarly acknowledge that their review of records of GD patients “demonstrated no advantage of surgery in relation to . . . hospitalizations following suicide attempts.” (I assume for this purpose that attempts that result in hospitalization are judged to be so serious as to predict a high rate of future suicide if not successfully addressed.”)¹¹

¹¹ Turban et al. (2020) has been described in press reports as demonstrating that administration of puberty suppressing hormones to transgender adolescents reduces suicide or suicidal ideation. The paper itself does not make that claim, nor permit that conclusion.

C. Long-term life in a transgender identity correlates with very high rates of completed suicide.

169. As with mental health generally, the patient, parent, or clinician fearing the risk of suicide must consider not just the next month or year, but a life course perspective.

170. There are now four long-term studies that analyze completed suicide among those living in transgender identities into adulthood. The results vary significantly, but are uniformly highly negative.

171. Dhejne reported a long-term follow-up study of subjects after sex reassignment surgery. Across the multi-year study, subjects who had undergone SRS committed suicide at 19.1 times the expected rate compared to general population controls matched by age and both sexes. MtF subjects committed suicide at 13.9 times the expected rate, and FtM subjects committed suicide at 40.0 times the expected rate. (Dhejne et al. 2011 Supplemental Table S1.)

172. Asscheman, also writing in 2011, reported results of a long-term follow-up of all transsexual subjects of the Netherlands' leading gender medicine clinic who started cross-sex hormones before July 1, 1997, a total of 1331 patients. Due to the Dutch system of medical and death records, extensive follow-up was achieved. Median follow-up period was 18.5 years. The mortality rate among MtF patients was 51% higher than among the age-matched general population; the rate of completed suicide among MtF patients was six times that of the age-matched general population. (Asscheman et al. 2011.)

173. Importantly, Asscheman et al. found that "No suicides occurred within the first 2 years of hormone treatment, while there were six suicides after 2-5 years, seven after 5-10 years, and four after more than 10 years of CSH treatment at a mean age of 41.5 years." (Asscheman et al. 2011 at 637-638.) This suggests that studies that follow patients for only a year or two after treatment are insufficient. Asscheman et al.'s data suggest that such short-term follow-up is

engaging only with an initial period of optimism, and will simply miss the feelings of disillusion and the increase in completed suicide that follows in later years.

174. A retrospective, long-term study published in 2020 of a very large cohort (8263) of patients referred to the Amsterdam University gender clinic between 1972 and 2017 found that the annual rate of completed suicides among the transgender subjects was “three to four times higher than the general Dutch population.” “[T]he incidence of observed suicide deaths was almost equally distributed over the different stages of treatment.” The authors concluded that “vulnerability for suicide occurs similarly in the different stages of transition.” (Wiepjes et al. 2020.) In other words, neither social nor medical transition reduced the rate of suicide.

175. As with Asscheman et al., Wiepjes et al. found that the median time between start of hormones and suicide (when suicide occurred) was 6.1 years for natal males, and 6.9 years for natal females. Again, short- or even medium-term studies will miss this suicide phenomenon.

176. A 2021 study analyzed the case histories of a cohort of 175 gender dysphoria patients treated at one of the seven UK adult gender clinics who were “discharged” (discontinued as patients) within a selected one-year period. The authors reported the rather shocking result that 7.7% (3/39) of natal males who were diagnosed and admitted for treatment, and who were between 17 and 24 years old, were “discharged” because they committed suicide during treatment. (Hall et al. 2021, Table 2.)

177. None of these studies demonstrates that the hormonal or surgical intervention *caused* suicide. That is possible, but as we have seen, the population that identifies as transgender suffers from a high incidence of comorbidities that correlate with suicide. What these studies demonstrate—at the least—is that this remains a troubled population in need of extensive and careful psychological care that they generally do not receive, and that neither

hormonal nor surgical transition and “affirmation” resolve their underlying problems and put them on the path to a stable and healthy life.

178. In sum, claims that affirmation will reduce the risk of suicide for children and adolescents are not based on science. Instead, transition of any sort must be justified, if at all, as a life-enhancing measure, not a lifesaving measure. (Levine 2016 at 242.) In my opinion, this is an important fact that patients, parents, and even many MHPs fail to understand.

IX. HORMONAL INTERVENTIONS ARE EXPERIMENTAL PROCEDURES THAT HAVE NOT BEEN PROVEN SAFE.

179. Dr. Adkins also appears to assert as a fact—but without citation to peer-reviewed literature—that social transition, puberty blockers, and cross-sex hormones are known to be “safe.” (Adkins at 5-6, 8.) This is not true. And Dr. Adkins, along with a number of voices in the field, also asserts that puberty blockers act merely as a “pause” in the process of puberty-driven maturation, suggesting that this hormonal intervention has been proven to be fully reversible. This is also an unproven belief.

180. On the contrary, no studies have been done that meaningfully demonstrate that either puberty blockers or cross-sex hormones, as prescribed for gender dysphoria, are safe in other than the short run. No studies have attempted to determine whether the effects of puberty blockers, as currently being prescribed for gender dysphoria, are fully reversible. Neither Dr. Adkins nor Dr. Safer cites any such studies, and there are none. There are only pronouncements. In fact, there are substantial reasons for concern that these hormonal interventions are not safe. Multiple researchers have expressed concern that the full range of possible harms have not even been correctly conceptualized.

181. Because, as I have explained in Section VI, recent evidence demonstrates that pre-pubertal social transition almost always leads to progression on to puberty blockers which in turn

almost always leads to the use of cross-sex hormones, physicians bear the ethical responsibility for a thorough informed consent process for parents and patients that includes this fact and its full implications. Informed consent does not mean sharing with the parents and patients what the doctor believes: it means sharing what is known and what is not known about the intervention. So much of what doctors believe is based on mere trust in what they have been taught. Neither they themselves nor their teachers may be aware of the scientific foundation and scientific limitations of what they are recommending.

A. Use of puberty blockers has not been shown to be safe or reversible for gender dysphoria.

182. As I noted above, the recent very thorough literature review performed for the British NHS concluded that *all* available clinical evidence relating to “safety outcomes” from administration of puberty blockers for gender dysphoria is of “very low certainty.” (NHS 2020a at 6.)

183. In its 2017 Guidelines, the Endocrine Society cautioned that “in the future we need more rigorous evaluations of the effectiveness and safety of endocrine and surgical protocols” including “careful assessment of . . . the effects of prolonged delay of puberty in adolescents on bone health, gonadal function, and the brain (including effects on cognitive, emotional, social, and sexual development).” (Hembree et al. 2017 at 3874.) No such “careful” or “rigorous” evaluation of these very serious safety questions has yet been done.

184. Some advocates appear to assume that puberty blockers are “safe” because they have been approved by the Food and Drug Administration (FDA) for use to treat precocious puberty—a rare condition in which the puberty process may start at eight or younger. No such conclusion can be drawn. As the “label” for Lupron (one of the most widely prescribed puberty blockers) explains, the FDA approved the drug only *until* the “age was appropriate for entry into

puberty.” The study provides no information at all as to the safety or reversibility of instead *blocking* healthy, normally-timed puberty’s beginning, and *throughout* the years that body-wide continuing changes normally occur. Given the physical, social, and psychological dangers to the child with precocious puberty, drugs like Lupron are effective in returning the child to a puerile state without a high incidence of significant side effects—that is, they are “safe” to reverse the condition. But use of drugs to suppress normal puberty has multiple organ system effects whose long-term consequences have not been investigated.

185. **Fertility:** The Endocrine Society Guidelines rightly say that research is needed into the effect of puberty blockade on “gonadal function” and “sexual development.” The core purpose and function of puberty blockers is to prevent the maturation of the ovaries or testes, the sources of female hormones and male hormones when stimulated by the pituitary gland. From this predictable process fertility is accomplished within a few years. Despite widespread assertions that puberty blockers are “fully reversible,” there has been no study published on the critical question of whether patients ever develop normal levels of fertility if puberty blockers are terminated after a “prolonged delay of puberty.” The 2017 Endocrine Society Guidelines are correct that there are no data on achievement of fertility “following prolonged gonadotropin suppression” (that is, puberty blockade). (Hembree et al. 2017 at 3880.)

186. **Bone strength:** Multiple studies have documented adverse effects from puberty blockers on bone density. (Klink et al. 2015; Vlot et al. 2016; Joseph et al. 2019.) The most recent found that after two years on puberty blockers, the bone density measurements for a significant minority of the children had declined to clinically concerning levels. Density in the spines of some subjects fell to a level found in only 0.13% of the population. (Biggs 2021.) Some

other studies have found less concerning effects on bone density. While the available evidence remains limited and conflicting, it is not possible to conclude that the treatment is “safe.”

187. **Brain development:** Important neurological growth and development in the brain occurs across puberty. The anatomic and functional effect on brain development of blocking the natural puberty process has not been well studied. A prominent Australian clinical team recently expressed concern that “no data were (or are) available on whether delaying the exposure of the brain to a sex steroid affects psychosexual, cognitive, emotional, or other neuropsychological maturation.” (Kozłowska et al. 2021 at 89.) In my opinion, given the observed correlation between puberty and brain development, the default hypothesis must be that there *would* be a negative impact. For the purpose of protecting patients all over the world, the burden of proof should be on advocates to first demonstrate to a reasonable degree of certainty that brain structure and its measurable cognitive and affect processing are not negatively affected. This recalls the ethical principle: Above All Do No Harm.

188. The Endocrine Society Guidelines acknowledge as much, stating that side effects of pubertal suppression “may include . . . unknown effects on brain development,” that “we need more rigorous evaluations of . . . the effects of prolonged delay of puberty in adolescents on . . . the brain (including effects on cognitive, emotional, social, and sexual development),” and stating that “animal data suggests there may be an effect of GnRH analogs [puberty blockers] on cognitive function.” (Hembree et al. 2017 at 3874, 3882, 3883.) Given this concern, one can only wonder why this relevant question has not been scientifically investigated in a large group of natal males and females.

189. There has been a longitudinal study of one natal male child, assessed before, and again 20 months after, puberty suppression was commenced. It reported a reduction in the

patient's "global IQ," measured an anomalous absence of certain structural brain development expected during normal male puberty, and hypothesized that "a plausible explanation for the G[lobal] IQ decrease should consider a disruption of the synchronic [i.e., appropriately timed] development of brain areas by pubertal suppression." (Schneider et al. 2017 at 7.) This should cause parents and practitioners serious concern.

190. Whether any impairment of brain development is "reversed" upon later termination of puberty blockade has, to my knowledge, not been studied at all. As a result, assertions by medical or mental health professionals that puberty blockade is "fully reversible" are unjustified and based on hope rather than science.

191. Without a number of additional case studies—or preferably statistically significant clinical studies—two questions remain unanswered: Are there brain anatomic or functional impairment from puberty blockers? And are the documented changes reversed over time when puberty blockers are stopped? With these questions unanswered, it is impossible to assert with certainty that the effects of this class of medications are "fully reversible." Such an assertion is another example of ideas based on beliefs rather than on documentation, on hope not science.

192. **Psycho-social harm:** Puberty is a time of stress, anxiety, bodily discomfort during physical development, and identity formation for *all* humans. No careful study has been done of the long-term impact on the young person's coping skills, interpersonal comfort, and intimate relationships from remaining puerile for, e.g., two to five years while one's peers are undergoing pubertal transformations, and of then undergoing an artificial puberty at an older age. However, pediatricians and mental health professionals hear of distress, concern, and social awkwardness in those who naturally have a delayed onset of puberty. In my opinion, individuals

in whom puberty is delayed multiple years are likely to suffer at least subtle negative psychosocial and self-confidence effects as they stand on the sidelines witnessing their peers developing the social relationships (and attendant painful social learning experiences) that come with adolescence. (Levine 2018 at 9.) Social anxiety and social avoidance are common findings in the evaluation of trans-identified children and teens. Are we expected to believe that creating years of being further different than their peers has no lasting internal consequences? Do we ignore Adolescent Psychiatry’s knowledge of the importance of peer groups among adolescents?

193. We simply do not know what all the psychological impacts of NOT grappling with puberty at the ordinary time may be, because it has not been studied. And we have no information as to whether that impact is “fully reversible.”

194. In addition, since the overwhelming proportion of children who begin puberty blockers continue on to cross-sex hormones, it appears that there is an important element of “psychological irreversibility” in play. The question of to what extent the physical and developmental impacts of puberty blockers might be reversible is an academic one, if psycho-social realities mean that very few patients will ever be able to make that choice once they have started down the road of social transition and puberty blockers.

B. Use of cross-sex hormones in adolescents for gender dysphoria has not been shown to be medically safe except in the short term.

195. As with puberty blockers, all evidence concerning the safety of extended use of cross-sex hormones is of “very low quality.” The U.K. NICE evidence review cautioned that “the safety profiles” of cross-sex hormone treatments are “largely unknown,” and that several of the limited studies that do exist reported high numbers of subjects “lost to follow-up,” without explanation—a worrying indicator. (NICE 2020b.)

196. The 2020 Cochrane Review reported that: “We found insufficient evidence to determine the . . . safety of hormonal treatment approaches for transgender women in transition.” (Haupt et al. 2020 at 4.) Even the Endocrine Society tagged all its recommendations for the administration of cross-sex hormones as based on “low quality evidence.” (Hembree et al. 2017 at 3889.)

197. **Sterilization:** It is undisputed, however, that harm to the gonads is an expected effect, to the extent that it must be assumed that cross-sex hormones will sterilize the patient. Thus, the Endocrine Society 2017 Guidelines caution that “[p]rolonged exposure of the testes to estrogen has been associated with testicular damage,” that “[r]estoration of spermatogenesis after prolonged estrogen treatment has not been studied,” and that “[i]n biological females, the effect of prolonged treatment with exogenous testosterone upon ovarian function is uncertain.” (Hembree et al. 2017 at 3880.)¹²

198. The Guidelines go on to recommend that the practitioner counsel the patient about the (problematic and uncertain) options available to collect and preserve fertile sperm or ova before beginning cross-sex hormones. The life-long negative emotional impact of infertility on both men and women has been well studied. While this impact has not been studied specifically within the transgender population, the opportunity to be a parent is likely a human, emotional need, and so should be considered an important risk factor when considering gender transition for any patient.

¹² See also Guss et al. 2015 at 4 (“a side effect [of cross-sex hormones] may be infertility”) and at 5 (“cross-sex hormones . . . may have irreversible effects”); Tishelman et al. 2015 at 8 (Cross-sex hormones are “irreversible interventions” with “significant ramifications for fertility”).

199. **Sexual response:** Puberty blockers prevent maturation of the sexual organs and response. Some, and perhaps many, transgender individuals who did not go through puberty consistent with their sex and are then put on cross-sex hormones face significantly diminished sexual response as they enter adulthood and are unable ever to experience orgasm. In the case of males, the cross-sex administration of estrogen limits penile genital growth and function. In the case of females, prolonged exposure to exogenous testosterone impairs vaginal function. Much has been written about the negative psychological and relational consequences of anorgasmia among non-transgender individuals that is ultimately applicable to the transgendered. (Levine 2018 at 6.) At the same time, prolonged exposure of females to exogenous testosterone often increases sexual drive to a distracting degree. It is likely that parents and physicians are uncomfortable discussing any aspects of genital sexual activity with patients.

200. **Cardiovascular harm:** Several researchers have reported that cross-sex hormones increase the occurrence of various types of cardiovascular disease, including strokes, blood clots, and other acute cardiovascular events. (Getahun et al. 2018; Guss et al. 2015; Asscheman et al. 2011.) With that said, I agree with the conclusion of the Endocrine Society committee (like that of the NICE Evidence Review) that: “A systematic review of the literature found that data were insufficient (due to very low-quality evidence) to allow a meaningful assessment of patient-important outcomes, such as death, stroke, myocardial infarction, or venous thromboembolism in transgender males. Future research is needed to ascertain the potential harm of hormonal therapies.” (Hembree et al. 2017 at 3891.) Future research questions concerning long-term harms need to be far more precisely defined. The question of whether cross-sex hormones are safe for adolescents and young adults cannot be answered by analogies to hormone replacement therapy in menopausal women (which is not a cross-sex usage).

Medicine has answered safety questions for menopausal women in terms of cancer and cardiovascular safety: at what dose, for what duration, and at what age range. The science of endocrine treatment of gender dysphoric youth is being bypassed by short-term clinical impressions of safety even though physicians know that cardiovascular and cancer processes often develop over many years.

201. Further, in contrast to administration for menopausal women, hormones begun in adolescence are likely to be administered for four to six decades. The published evidence of adverse impact, coupled with the lack of data sufficient to reach a firm conclusion, make it irresponsible to assert that cross-sex hormones “are safe.”

202. **Harm to family and friendship relationships:** As a psychiatrist, I recognize that mental health is a critical part of health generally, and that relationships cannot be separated from and profoundly impact mental health. Gender transition routinely leads to isolation from at least a significant portion of one’s family in adulthood. In the case of a juvenile transition, this will be less dramatic while the child is young, but commonly increases over time as siblings who marry and have children of their own do not wish the transgender individual to be in contact with those children. By adulthood, the friendships of transgender individuals tend to be confined to other transgender individuals (often “virtual” friends known only online) and the generally limited set of others who are comfortable interacting with transgender individuals. (Levine 2017 at 5.) My concerns about this are based on decades of observations in my professional work with patients.

203. **Sexual-romantic harms associated with transition:** After adolescence, transgender individuals find the pool of individuals willing to develop a romantic and intimate relationship with them to be greatly diminished. When a trans person who passes well reveals his or her natal sex, many potential mates lose interest. When a trans person does not pass well,

options are likely further diminished. But regardless of a person's appearance, these adults soon learn that many of their dates are looking for exotic sexual experiences rather than genuinely loving relationships. (Levine 2017 at 5, 13; Levine 2013 at 40.)

C. The timing of harms.

204. The multi-year delay between start of hormones and the spike in completed suicide observed by Professor Biggs in the Tavistock data (as discussed in Section VIII above) warns us that the safety and beneficence of these treatments cannot be judged based on short-term studies, or studies that do not continue into adulthood. Similarly, several of the harms that I discuss above would not be expected to manifest until the patients reaches at least middle-age. For example, stroke or other serious cardiovascular event is a complication that is unlikely to manifest during teen years even if its likelihood over the patient's lifetime has been materially increased via obesity, lipid abnormalities, and smoking. Regret over sterilization or over an inability to form a stable romantic relationship may occur sooner. Psychological challenges of being a trans adult may become manifest after the medical profession is only doing routine follow up care—or, in many cases, has lost contact with the patient altogether. Because few, if any, clinics in this country are conducting systematic long-term follow-up with their child and adolescent patients, the doctors who counsel, prescribe, or perform hormonal and surgical therapies are unlikely ever to become aware of the later negative life impacts, however severe. These concerns are compounded by the findings in the recent “detransitioner” research that 76% did not inform their clinicians of their detransition. (Littman 2021.)

205. The possibility that steps along the transition and affirmation pathway, while lessening the pain of gender dysphoria in the short term, could lead to additional sources of crippling emotional and psychological pain, are too often not considered by advocates of social transition and not considered at all by the trans child. (Levine 2016 at 243.) Clinicians must

distinguish the apparent short-term safety of hormones from likely or possible long-term consequences, and help the patient or parents understand these implications as well. The young patient may feel, “I don’t care if I die young, just as long I get to live as a woman.” The mature adult may take a different view. Hopefully, so will the child’s physician.

206. Individual patients often pin excessive hope in transition, believing that transition will solve what are in fact ordinary social stresses associated with maturation, or mental health co-morbidities. In this way, transition can prevent them from mastering personal challenges at the appropriate time or directly addressing conditions that require treatment. When the hoped-for “vanishing” of other mental health or social difficulties does not occur, disappointment, distress, and depression may ensue. It is noteworthy that half of the respondents to the larger “detransitioner” survey reported that their transition had not helped the gender dysphoria, and 70% had concluded that their gender dysphoria was related to other issues. (Vandenbussche 2021.) Without the clinical experience of monitoring the psychosocial outcomes of these young patients as they age into adulthood, many such professionals experience no challenge to their affirmative beliefs. But medical and mental health professionals who deliver trans affirmative care for those with previous and co-existing mental health problems have an ethical obligation to inform themselves, and to inform patients and parents, that these dramatic treatments are not a panacea.

207. In sum, whether we consider physical or mental health, science does not permit us to say that either puberty blockers or cross-sex hormones are “safe,” and the data concerning the mental health of patients before, during, and after such treatments strongly contradict the assertion that gender dysphoria is “easily managed.”

Bibliography

- Adelson, S. & American Academy of Child & Adolescent Psychiatry (2012). *Practice Parameter on Gay, Lesbian, or Bisexual Sexual Orientation, Gender Nonconformity, and Gender Discordance in Children and Adolescents*. JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY 51(9) 957.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- American Psychological Association. *Guidelines for Psychological Practice with Transgender & Gender Nonconforming People* (2015). AMERICAN PSYCHOLOGIST 70(9) 832.
- Anderson, E. (2022, January 3). *Opinion: When it comes to trans youth, we're in danger of losing our way*. THE SAN FRANCISCO EXAMINER. Accessed January 5, 2022 <http://www.sfexaminer.com/opinion/are-we-seeing-a-phenomenon-of-trans-youth-social-contagion/>
- Anzani, A., Lindley, L., Tognasso, G., Galupo, M. & Prunas, A. (2021). “*Being Talked to Like I Was a Sex Toy, Like Being Transgender Was Simply for the Enjoyment of Someone Else*”: *Fetishization and Sexualization of Transgender and Nonbinary Individuals*. ARCHIVES OF SEXUAL BEHAVIOR 50(3) 897-911..
- Asscheman, H., Giltay, E. J., Megens, J. A. J., de Ronde, W. (Pim), van Trotsenburg, M. A. A., & Gooren, L. J. G. (2011). *A long-term follow-up study of mortality in transsexuals receiving treatment with cross-sex hormones*. EUROPEAN JOURNAL OF ENDOCRINOLOGY 164(4) 635–642.
- Balshem, H., Helfand, M., Schünemann, H. J., Oxman, A. D., Kunz, R., Brozek, J., Vist, G. E., Falck-Ytter, Y., Meerpohl, J., & Norris, S. (2011). *GRADE guidelines: 3. Rating the quality of evidence*. JOURNAL OF CLINICAL EPIDEMIOLOGY 64(4), 401–406.
- Becerra-Culqui, T. et. al. (2018). *Mental Health of Transgender and Gender Nonconforming Youth Compared with Their Peers*. PEDIATRICS 141(5).
- Bhargava, A., et al. (2021). *Considering Sex as a Biological Variable in Basic and Clinical Studies: An Endocrine Society Scientific Statement*. ENDOCRINE REVIEWS 42(3) 219-158.
- Biggs, M. (2021). *Revisiting the effect of GnRH analogue treatment on bone mineral density in young adolescents with gender dysphoria*. JOURNAL OF PEDIATRIC ENDOCRINOLOGY AND METABOLISM 34(7), 937-939.

- Biggs, M. (2022a). *Estrogen is Associated with Greater Suicidality among Transgender Males, and Puberty Suppression is not Associated with Better Mental Health Outcomes for Either Sex*. [Journals.plos.org/plosone/article/comment?id=10.1371/annotation/dcc6a58e-592a-49d4-9b65-ff65df2aa8f6](https://journals.plos.org/plosone/article/comment?id=10.1371/annotation/dcc6a58e-592a-49d4-9b65-ff65df2aa8f6).
- Biggs, M. (2022b). *Suicide by Clinic-Referred Transgender Adolescents in the United Kingdom*. ARCHIVES OF SEXUAL BEHAVIOR. [Doi.org/10.1007/s10508-022-02287-7](https://doi.org/10.1007/s10508-022-02287-7).
- Blakemore, S., Burnett, S., and Dahl, R. (2010). *The Role of Puberty in the Developing Adolescent Brain*. HUMAN BRAIN MAPPING 31:926.933.
- Boyd, I., Hackett, T. & Bewley, S. (2022).. *Care of Transgender Patients: A General Practice Quality Improvement Approach*. HEALTHCARE. 10(1):121.
- Bränström, R., & Pachankis, J. E. (2020a). *Reduction in Mental Health Treatment Utilization Among Transgender Individuals After Gender-Affirming Surgeries: A Total Population Study*. AMERICAN JOURNAL OF PSYCHIATRY 177(8) 727–734.
- Bränström, R., & Pachankis, J. E. (2020b). *Correction to Bränström and Pachankis*. (2020). AMERICAN JOURNAL OF PSYCHIATRY, 177(8), 734–734. <https://doi.org/10.1176/appi.ajp.2020.1778correction>
- Brik, T. et al. (2020). *Trajectories of Adolescents Treated with Gonadotropin-Releasing Hormone Analogues for Gender Dysphoria*. ARCHIVES OF SEXUAL BEHAVIOR. <https://doi.org/10.1007/s10508-020-01660-8>.
- Cantor, J. (2019). *Transgender and Gender Diverse Children and Adolescents: Fact-Checking of AAP Policy*. JOURNAL OF SEX & MARITAL THERAPY, 46(4), 307–313.
- Carmichael, P., Butler, G., Masic, U., Cole, T. J., De Stavola, B. L., Davidson, S., Skageberg, E. M., Khadr, S., & Viner, R. M. (2021). *Short-term outcomes of pubertal suppression in a selected cohort of 12- to 15-year-old young people with persistent gender dysphoria in the UK*. PLOS ONE, 16(2), e0243894.
- Cohen-Kettenis, P. and Kuiper, B. (1984). *Transsexuality and Psychotherapy*. TIJDSCHRIFT VOOR PSYCHOTHERAPIE 10 (153-166).
- Cohen-Kettenis, P. T., Delemarre-van de Waal, H. A., & Gooren, L. J. G. (2008). *The treatment of adolescent transsexuals: Changing insights*. THE JOURNAL OF SEXUAL MEDICINE, 5(8), 1892–1897.
- D’Angelo, R. (2018). *Psychiatry’s ethical involvement in gender-affirming care*. AUSTRALASIAN PSYCHIATRY 26(5), 460–463.

- D'Angelo, R., Syrulnik, El, Ayad, S., Marchiano, L., Kenny, D.T., & Clarke, P. (2021). *One Size Does Not Fit All: In Support of Psychotherapy for Gender Dysphoria*. ARCHIVES OF SEXUAL BEHAVIOR 50(1) 7-16.
- Davis, L. (2022). *A Trans Pioneer Explains Her Resignation from the US Professional Association for Transgender Health*. QUILETTE. Accessed February 1, 2022. <https://quilette.com/2022/01/06/a-transgender-pioneer-explains-why-she-stepped-down-from-uspath-and-wpath/>
- de Vries, A. L. C. (2020). *Challenges in Timing Puberty Suppression for Gender-Nonconforming Adolescents*. PEDIATRICS 146(4), e2020010611.
- Dhejne, C., Lichtenstein, P., Boman, M., Johansson, A. L. V., Långström, N., & Landén, M. (2011). *Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden*. PLoS ONE 6(2), e16885.
- Dhejne, C., Öberg, K., Arver, S., & Landén, M. (2014). *An Analysis of All Applications for Sex Reassignment Surgery in Sweden, 1960–2010: Prevalence, Incidence, and Regrets*. ARCHIVES OF SEXUAL BEHAVIOR, 43(8), 1535–1545.
- Dreger, A. (2015) *Galileo's Middle Finger: Heretics, Activists, and One Scholar's Search for Justice Paperback*. PENGUIN BOOKS.
- Edwards-Leeper, L. and Anderson, E. (November 24, 2021). *The Mental Health Establishment is Failing Trans Kids*. THE WASHINGTON POST. Accessed February 1, 2022. <https://www.washingtonpost.com/outlook/2021/11/24/trans-kids-therapy-psychologist/>
- Edwards-Leeper, L. et al. (2017). *Psychological Profile of the First Sample of Transgender Youth Presenting for Medical Intervention in a U.S. Pediatric Gender Center*. PSYCHOLOGY OF SEXUAL ORIENTATION AND GENDER DIVERSITY 4(3) 374.
- Ehrensaft, B.(2015). *Listening and Learning from Gender-Nonconforming Children*. THE PSYCHOANALYTIC STUDY OF THE CHILD 68(1) 28.
- Entwistle, K. (2020). *Debate: Reality check – Detransitioners' testimonies require us to rethink gender dysphoria*. CHILD AND ADOLESCENT MENTAL HEALTH camh.12380.
- Evans, M. and Evans, S. (2021). *Psychotherapy of Gender Dysphoria of Children and Young Adults*. PHOENIX PUBLICATION, UK.
- Expósito-Campos, P. (2021). *A Typology of Gender Detransition and Its Implications for Healthcare Providers*. JOURNAL OF SEX & MARITAL THERAPY. <https://doi.org/10.1080/0092623X.2020.1869126>.

- Frigerio, A. et al. (2021). *Structural, Functional, and Metabolic Brain Differences as a Function of Gender Identity or Sexual Orientation: A Systematic Review of the Human Neuroimaging Literature*. ARCHIVES OF SEXUAL BEHAVIOR 50:3329-3352.
- Getahun, D., Nash, R., Flanders, W. D., Baird, T. C., Becerra-Culqui, T. A., Cromwell, L., Hunkeler, E., Lash, T. L., Millman, A., Quinn, V. P., Robinson, B., Roblin, D., Silverberg, M. J., Safer, J., Slovis, J., Tangpricha, V., & Goodman, M. (2018). *Cross-sex Hormones and Acute Cardiovascular Events in Transgender Persons: A Cohort Study*. ANNALS OF INTERNAL MEDICINE, 169(4), 205.
- Gender Identity Development Service of the NHS (2019). *Referrals to the Gender Identity Development Service (GIDS) Level Off in 2018-19*. <https://tavistockandportman.nhg.uk/about-us/news/stories/referrals-gender-identity-development-service-gids-level-2018-19>.
- Ghorayshi, A. (2022, January 13). *Doctors Debate Whether Trans Teens Need Therapy Before Hormones*. THE NEW YORK TIMES. Accessed February 1, 2022. <https://www.nytimes.com/2022/01/13/health/transgender-teens-hormones.html>.
- Griffin, L., Clyde, K., Byng, R., & Bewley, S. (2021). *Sex, Gender and Gender Identity: A Re-evaluation of the Evidence*. BJPSYCH BULLETIN, 45(5), 291-299.
- Guss, C. et al. (2015). *Transgender and Gender Nonconforming Adolescent Care: Psychosocial and Medical Considerations*. CURRENT OPINIONS IN PEDIATRICS 26(4) 421.
- Hall, R., Mitchell, L., & Sachdeva, J. (2021). *Access to care and frequency of detransition among a cohort discharged by a UK national adult gender identity clinic: Retrospective case-note review*. BJPSYCH OPEN, 7(6), e184.
- Haupt, C. et al. (2020). *Antiandrogen or Estradiol Treatment or Both During Hormone Therapy in Transitioning Transgender Women (Review)*. COCHRANE DATABASE OF SYSTEMATIC REVIEWS 11. DOI: 10.1002/14651858.CD013138.pub2.
- Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H., Rosenthal, S. M., Safer, J. D., Tangpricha, V., & T'Sjoen, G. G. (2017). *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline*. THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM 102(11), 3869–3903.
- Hruz, P. (2020). *Deficiencies in Scientific Evidence for Medical Management of Gender Dysphoria*. THE LINACRE QUARTERLY 87(1):34-42.
- Johns, M. M., Lowry, R., Andrzejewski, J., Barrios, L. C., Demissie, Z., McManus, T., Rasberry, C. N., Robin, L., & Underwood, J. M. (2019). *Transgender Identity and Experiences of Violence Victimization, Substance Use, Suicide Risk, and Sexual Risk*

Behaviors Among High School Students—19 States and Large Urban School Districts, 2017. MORBIDITY AND MORTALITY WEEKLY REPORT 68(3) 67–71.

Joseph, T., Ting, J., & Butler, G. (2019). *The effect of GnRH analogue treatment on bone mineral density in young adolescents with gender dysphoria: findings from a large national cohort.* JOURNAL OF PEDIATRIC ENDOCRINOLOGY METABOLISM 32(10):1077-1081.

Kaltiala-Heino, R., Bergman, H., Työlajärvi, M., & Frisen, L. (2018). *Gender dysphoria in adolescence: Current perspectives.* ADOLESCENT HEALTH, MEDICINE AND THERAPEUTICS 9 (31–41).

Kaltiala-Heino, R., Sumia, M., Työlajärvi, M., & Lindberg, N. (2015). *Two years of gender identity service for minors: Overrepresentation of natal girls with severe problems in adolescent development.* CHILD AND ADOLESCENT PSYCHIATRY AND MENTAL HEALTH, 9(1), 9.

Kendler K. S. (2019). *From Many to One to Many-the Search for Causes of Psychiatric Illness.* JAMA PSYCHIATRY, 76(10) 1085–1091.

Kidd, K. M., Sequeira, G. M., Douglas, C., Paglisotti, T., Inwards-Breland, D. J., Miller, E., & Coulter, R. W. S. (2021). *Prevalence of Gender-Diverse Youth in an Urban School District.* PEDIATRICS, 147(6) e2020049823.

Klink, D. et al. (2015). *Bone mass in young adulthood following gonadotropin-releasing hormone analog treatment and cross-sex hormone treatment in adolescents with gender dysphoria.* JOURNAL OF CLINICAL ENDOCRINOLOGY METABOLISM 100(2):E270-5.

Kozłowska, K., Chudleigh, C., McClure, G., Maguire, A. M., & Ambler, G. R. (2021). *Attachment Patterns in Children and Adolescents with Gender Dysphoria.* FRONTIERS IN PSYCHOLOGY 11. <https://doi.org/10.3389/fpsyg.2020.582688>.

Laidlaw, M. K., Van Meter, Q. L., Hruz, P. W., Van Mol, A., & Malone, W. J. (2019). *Letter to the Editor: "Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline".* THE JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM. 104(3), 686–687.

Landén, M. (2020). *The Effect of Gender-Affirming Treatment on Psychiatric Morbidity Is Still Undecided.* AMERICAN JOURNAL OF PSYCHIATRY. 177(8):767-768.

Levine, S. (2013). *Barriers to Loving: A Clinician's Perspective.* (Routledge, New York 2013).

Levine, S. (2016). *Reflections on the Legal Battles Over Prisoners with Gender Dysphoria.* JOURNAL OF THE AMERICAN ACADEMY OF PSYCHIATRY LAW 44, 236.

- Levine, S. (2017). *Ethical Concerns About Emerging Treatment Paradigms for Gender Dysphoria*. JOURNAL OF SEX & MARITAL THERAPY at 7. DOI: [10.1080/0092623X.2017.1309482](https://doi.org/10.1080/0092623X.2017.1309482).
- Levine, S. (2019). *Informed Consent for Transgender Patients*, JOURNAL OF SEX & MARITAL THERAPY 45(3):218-229.
- Levine, S. (2021). *Reflections on the Clinician's Role with Individuals Who Self-identify as Transgender*. ARCHIVES OF SEXUAL BEHAVIOR. <https://doi.org/10.1007/s10508-021-02142-1>
- Lichtenstein M, Stein L, Connolly E, Goldstein ZG, Martinson T, Tiersten L, Shin SJ, Pang JH, Safer JD (2020). *The Mount Sinai patient-centered preoperative criteria meant to optimize outcomes are less of a barrier to care than WPATH SOC 7 criteria before transgender-specific surgery*. TRANSGENDER HEALTH 5:3, 166–172.
- Littman, L. (2018). *Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria*. PLoS ONE 13(8): e0202330.
- Littman, L. (2021). *Individuals Treated for Gender Dysphoria with Medical and/or Surgical Transition Who Subsequently Detransitioned: A Survey of 100 Detransitioners*. ARCHIVES OF SEXUAL BEHAVIOR. <https://doi.org/10.1007/s10508-021-02163-w>
- Malone, W., Hruz, P., Mason, J., Beck, S., (2021). *Letter to the Editor from William J. Malone et al: "Proper Care of Transgender and Gender-diverse Persons in the Setting of Proposed Discrimination: A Policy Perspective"*. THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM Volume 106, Issue 8, August 2021, Pages e3287–e3288.
- Marchiano, L. (2021). *Gender detransition: a case study*. JOURNAL OF ANALYTICAL PSYCHOLOGY. 66:813– 832.
- Meyer-Bahlburg H. F. (2005). *Gender identity outcome in female-raised 46,XY persons with penile agenesis, cloacal exstrophy of the bladder, or penile ablation*. ARCHIVES OF SEXUAL BEHAVIOR, 34(4), 423–438.
- National Institute for Health and Care Excellence (2021a). *Evidence review: Gonadotrophin releasing hormone analogues for children and adolescents with gender dysphoria*. <https://arms.nice.org.uk/resources/hub/1070905/attachment>
- National Institute for Health and Care Excellence. (2021b). *Evidence review: Gender-affirming hormones for children and adolescents with gender dysphoria*. <https://arms.nice.org.uk/resources/hub/1070871/attachment>

National Institutes of Health. *NIH Policy and Guidelines on The Inclusion of Women and Minorities as Subjects in Clinical Research*. Notice Number NOT-OD-02-001 released 10-09-2001. <https://grants.nih.gov/policy/inclusion/women-and-minorities/guidelines.htm>

National Institutes of Health. *Consideration of Sex as a Biological Variable in NIH-Funded Research*. Notice Number NOT-OD-15-102 released 06-09-2015. <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-102.html>

National Institutes of Health, Office of Research on Women's Health. *How Sex and Gender Influence Health and Disease*. Downloaded 2-11-2022 https://orwh.od.nih.gov/sites/orwh/files/docs/SexGenderInfographic_11x17_508.pdf.

Newcomb, M. et al. (2020). *High Burden of Mental Health Problems, Substance Use, Violence, and Related Psychosocial Factors in Transgender, Non-Binary, and Gender Diverse Youth and Young Adults*. ARCHIVES OF SEXUAL BEHAVIOR 49(2) 645-659.

Reiner, W. G., & Gearhart, J. P. (2004). *Discordant sexual identity in some genetic males with cloacal exstrophy assigned to female sex at birth*. THE NEW ENGLAND JOURNAL OF MEDICINE 350(4), 333–341.

Reisner, S. et al. (2015), *Mental Health of Transgender Youth in Care at an Adolescent Urban Community Health Center: A Matched Retrospective Cohort Study*, JOURNAL OF ADOLESCENT HEALTH 56(3) at 6.

Rider, G. et al. (2018), *Health and Care Utilization of Transgender/Gender Non-Conforming Youth: A Population Based Study*. PEDIATRICS at 4, DOI: [10.1542/peds.2017-1683](https://doi.org/10.1542/peds.2017-1683).

Ristori, J., & Steensma, T. D. (2016). *Gender dysphoria in childhood*. INTERNATIONAL REVIEW OF PSYCHIATRY, 28(1), 13–20.

Royal Australian and New Zealand College of Psychiatrists. (2021) *Statement: Recognising and addressing the mental health needs of people experiencing Gender Dysphoria / Gender Incongruence*. <https://www.ranzcp.org/news-policy/policy-and-advocacy/position-statements/gender-dysphoria>

Saraswat, A. et al. (2015). *Evidence Supporting the Biologic Nature of Gender Identity*. ENDOCRINE PRACTICE 21(2) 199.

Schneider, M. et al. (2017). *Brain Maturation, Cognition and Voice Pattern in a Gender Dysphoria Case Under Pubertal Suppression*. FRONTIERS IN HUMAN NEUROSCIENCE 11:528.

- Shumer, D. & Tishelman, A. (2015). *The Role of Assent in the Treatment of Transgender Adolescents*, INTERNATIONAL JOURNAL OF TRANSGENDERISM at 1. DOI: [10.1080/15532739.2015.1075929](https://doi.org/10.1080/15532739.2015.1075929).
- Shumer, D. et al. (2016), *Evaluation of Asperger Syndrome in Youth Presenting to a Gender Dysphoria Clinic*, LGBT HEALTH 3(5) 387.
- Shumer, D. et al. (2017), *Overrepresentation of Adopted Adolescents at a Hospital-Based Gender Dysphoria Clinic*, TRANSGENDER HEALTH Vol. 2(1) 76.
- Simonsen, R.K. et al. (2016), *Long-Term Follow-Up of Individuals Undergoing Sex Reassignment Surgery: Psychiatric Morbidity & Mortality*, NORDIC JOURNAL OF PSYCHIATRY 70(4).
- Singh, D., Bradley, S. J., & Zucker, K. J. (2021). *A Follow-Up Study of Boys with Gender Identity Disorder*. FRONTIERS IN PSYCHIATRY, 12. <https://doi.org/10.3389/fpsyt.2021.632784>
- Steensma, T. D., McGuire, J. K., Kreukels, B. P. C., Beekman, A. J., & Cohen-Kettenis, P. T. (2013). *Factors Associated with Desistence and Persistence of Childhood Gender Dysphoria: A Quantitative Follow-Up Study*. JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY, 52(6), 582–590.
- Thoma, B. et al. (2021). *Disparities in Childhood Abuse Between Transgender and Cisgender Adolescents*. PEDIATRICS 148(2).
- Tishelman, A. C., Kaufman, R., Edwards-Leeper, L., Mandel, F. H., Shumer, D. E., & Spack, N. P. (2015). *Serving Transgender Youth: Challenges, Dilemmas and Clinical Examples*. PROFESSIONAL PSYCHOLOGY, RESEARCH AND PRACTICE 46(1), 37–45.
- Toomey R. B., Syvertsen A. K., Shramko M. (2018). *Transgender Adolescent Suicide Behavior*. PEDIATRICS.142(4):e20174218.
- Turban, J. L., King, D., Carswell, J. M., & Keuroghlian, A. S. (2020). *Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation*. PEDIATRICS 145(2), e20191725. <https://doi.org/10.1093/peds/145.2.e20191725>.
- Vandenbussche, E. (2021). *Detransition-Related Needs and Support: A Cross-Sectional Online Survey*. JOURNAL OF HOMOSEXUALITY 20. <https://doi.org/10.1080/00918369.2021.1919479>.
- van der Miesen, A. I. R., Cohen-Kettenis, P. T., & de Vries, A. L. C. (2018). *Is There a Link Between Gender Dysphoria and Autism Spectrum Disorder?* JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY 57(11), 884–885.

- van der Miesen, A. I. R. et al. (2020). *Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care Compared With Cisgender General Population Peers*. JOURNAL OF ADOLESCENT HEALTH, Volume 66, Issue 6, 699-704.
- Vlot, M. et al. (2016). *Effect of pubertal suppression and cross-sex hormone therapy on bone turnover markers and bone mineral apparent density (BMAD) in transgender adolescents*. BONE 95:11-19.
- Wiepjes, C. M., Nota, N. M., de Blok, C. J. M., Klaver, M., de Vries, A. L. C., Wensing-Kruger, S. A., de Jongh, R. T., Bouman, M.-B., Steensma, T. D., Cohen-Kettenis, P., Gooren, L. J. G., Kreukels, B. P. C., & den Heijer, M. (2018). *The Amsterdam Cohort of Gender Dysphoria Study (1972–2015): Trends in Prevalence, Treatment, and Regrets*. THE JOURNAL OF SEXUAL MEDICINE, 15(4), 582–590.
- Wiepjes, C. M., den Heijer, M., Bremmer, M. A., Nota, N. M., Blok, C. J. M., Coumou, B. J. G., & Steensma, T. D. (2020). *Trends in suicide death risk in transgender people: Results from the Amsterdam Cohort of Gender Dysphoria study (1972–2017)*. ACTA PSYCHIATRICA SCANDINAVICA 141(6) 486–491.
- World Health Organization. Gender and Health. https://www.who.int/health-topics/gender#tab=tab_1. Downloaded 2-11-2022.
- World Health Organization (2019). *International statistical classification of diseases and related health problems (11th ed.)*. <https://icd.who.int/>.
- WPATH *De-Psychopathologisation Statement* (May 26, 2010), available at wpath.org/policies (last accessed January 21, 2020).
- Zucker, K. (2018). *The myth of persistence: Response to “A critical commentary on follow-up studies and ‘desistance’ theories about transgender and gender non-conforming children” by Temple Newhook et al. (2018)*. INTERNATIONAL JOURNAL OF TRANSGENDERISM 19(2) 231–245.
- Zucker, K. (2019). *Adolescents with Gender Dysphoria: Reflections on Some Contemporary Clinical and Research Issues*. ARCHIVES OF SEXUAL BEHAVIOR 48(7) 1983–1992.
- Zucker, K. (2020). *Different strokes for different folks*. CHILD ADOLESC MENT HEALTH 25(1): 36–37. <https://doi.org/10.1111/camh.12330>.

LEVINE EXPERT REPORT

EXHIBIT A

Stephen B. Levine, M.D.

Curriculum Vita
February, 2022

Brief Introduction

Dr. Levine is Clinical Professor of Psychiatry at Case Western Reserve University School of Medicine. He is the author or coauthor of numerous books on topics relating to human sexuality and related relationship and mental health issues. Dr. Levine has been teaching, providing clinical care, and writing since 1973, and has generated original research, invited papers, commentaries, chapters, and book reviews. He has served as a journal manuscript and book prospectus reviewer for many years. Dr. Levine has been co-director of the Center for Marital and Sexual Health/ Levine, Risen & Associates, Inc. in Beachwood, Ohio from 1992 to the present. He received a lifetime achievement Masters and Johnson's Award from the Society for Sex Therapy and Research in March 2005.

Personal Information

Date of birth 1/14/42

Medical license no. Ohio 35-03-0234-L

Board Certification 6/76 American Board of Neurology and Psychiatry

Education

1963 BA Washington and Jefferson College

1967 MD Case Western Reserve University School of Medicine

1967-68 internship in Internal Medicine University Hospitals of Cleveland

1968-70 Research associate, National Institute of Arthritis and Metabolic Diseases, Epidemiology Field Studies Unit, Phoenix, Arizona, United States Public Health Service

1970-73 Psychiatric Residency, University Hospitals of Cleveland

1974-77 Robert Wood Johnson Foundation Clinical Scholar

Appointments at Case Western Reserve University School of Medicine

1973- Assistant Professor of Psychiatry

1979- Associate Professor

1982- Awarded tenure

1985- Full Professor

1993- Clinical Professor

Honors

Summa Cum Laude, Washington & Jefferson

Teaching Excellence Award-1990 and 2010 (Residency program)

Visiting Professorships

- Stanford University-Pfizer Professorship program (3 days)–1995
- St. Elizabeth’s Hospital, Washington, DC –1998
- St. Elizabeth’s Hospital, Washington, DC--2002

Named to America’s Top Doctors consecutively since 2001

Invitations to present various Grand Rounds at Departments of Psychiatry and Continuing Education Lectures and Workshops

Masters and Johnson Lifetime Achievement Award from the Society of Sex Therapy and Research, April 2005 along with Candace Risen and Stanley Althof

2006 SSTAR Book Award for The Handbook of Clinical Sexuality for Mental Health Professionals: Exceptional Merit

2018—Albert Marquis Lifetime Achievement Award from Marquis Who’s Who. (Exceling in one’s field for at least twenty years)

Professional Societies

1971- American Psychiatric Association; fellow; #19909

2005- American Psychiatric Association, Distinguished Life Fellow

1973- Cleveland Psychiatric Society

1973- Cleveland Medical Library Association

- 1985 - Life Fellow
- 2003 - Distinguished Life Fellow

1974-Society for Sex Therapy and Research

- 1987-89-President

1983- International Academy of Sex Research

1983- Harry Benjamin International Gender Dysphoria Association

- 1997-8 Chairman, Standards of Care Committee

1994- 1999 Society for Scientific Study of Sex

Community Boards

1999-2002 Case Western Reserve University Medical Alumni Association

1996-2001 Bellefaire Jewish Children's Bureau

1999-2001 Physicians' Advisory Committee, The Gathering Place (cancer rehabilitation)

Editorial Boards

1978-80 Book Review Editor Journal Sex and Marital Therapy

Manuscript Reviewer for:

- a. Archives of Sexual Behavior
- b. Annals of Internal Medicine
- c. British Journal of Obstetrics and Gynecology
- d. JAMA
- e. Diabetes Care
- f. American Journal of Psychiatry
- g. Maturitas
- h. Psychosomatic Medicine
- i. Sexuality and Disability
- j. Journal of Nervous and Mental Diseases
- k. Journal of Neuropsychiatry and Clinical Neurosciences
- l. Neurology
- m. Journal Sex and Marital Therapy
- n. Journal Sex Education and Therapy
- o. Social Behavior and Personality: an international journal (New Zealand)
- p. International Journal of Psychoanalysis
- q. International Journal of Transgenderism
- r. Journal of Urology
- s. Journal of Sexual Medicine
- t. Current Psychiatry
- u. International Journal of Impotence Research
- v. Postgraduate medical journal
- w. Academic Psychiatry

Prospectus Reviewer

- a. Guilford
- b. Oxford University Press
- c. Brunner/Routledge
- d. Routledge

Administrative Responsibilities

Principal Investigator of approximately 70 separate studies involving pharmacological interventions for sexual dysfunction since 1989.

Co-leader of case conferences at DELRLLC.com

Expert testimony at trial or by deposition within the last 4 years

Provided expert testimony for Massachusetts Dept. of Corrections in its defense of a lawsuit brought by prisoner Katheena Soneeya, including by deposition in October 2018, and in-court testimony in 2019.

Provided expert testimony by deposition and at trial in *In the Interests of the Younger Children* (Dallas, TX), 2019.

Testified in an administrative hearing in *In the matter of Rhys & Lynn Crawford* (Washington State), March 2021.

Testified multiple times in juvenile court in *In the matter of Asha Kerwin* (Tucson, Arizona), 2021.

Provided expert testimony by deposition in *Kadel et al v. Folwell et al.* (North Carolina), 2021.

Consultancies

Massachusetts Department of Corrections—evaluation of 12 transsexual prisoners and the development of a Gender Identity Disorders Program for the state prison system. Monthly consultation with the GID treatment team since February 2009 and the GID policy committee since February 2010.

California Department of Corrections and Rehabilitation; 2012-2015; education, inmate evaluation, commentary on inmate circumstances, suggestions on future policies.

Virginia Department of Corrections –evaluation of an inmate.

New Jersey Department of Corrections—evaluation of an inmate.

Idaho Department of Corrections—workshop 2016.

Grant Support/Research Studies

TAP—studies of Apomorphine sublingual in treatment of erectile dysfunction.

Pfizer–Sertraline for premature ejaculation.

Pfizer–Viagra and depression; Viagra and female sexual dysfunction; Viagra as a treatment for SSRI-induced erectile dysfunction.

NIH- Systemic lupus erythematosus and sexuality in women.

Sihler Mental Health Foundation

- a. Program for Professionals
- b. Setting up of Center for Marital and Sexual Health
- c. Clomipramine and Premature ejaculation
- d. Follow-up study of clergy accused of sexual impropriety
- e. Establishment of services for women with breast cancer

Alza–controlled study of a novel SSRI for rapid ejaculation.

Pfizer–Viagra and self-esteem.

Pfizer- double-blind placebo control studies of a compound for premature ejaculation.

Johnson & Johnson – controlled studies of Dapoxetine for rapid ejaculation.

Proctor and Gamble: multiple studies to test testosterone patch for post menopausal sexual dysfunction for women on and off estrogen replacement.

Lilly-Icos—study of Cialis for erectile dysfunction.

VIVUS – study for premenopausal women with FSAD.

Palatin Technologies- studies of bremelanotide in female sexual dysfunction—first intranasal then subcutaneous administration.

Medtap – interview validation questionnaire studies.

HRA- quantitative debriefing study for Female partners of men with premature ejaculation, Validation of a New Distress Measure for FSD.

Boehringer-Ingelheim- double blind and open label studies of a prosexual agent for hypoactive female sexual desire disorder.

Biosante- studies of testosterone gel administration for post menopausal women with HSDD.

J&J a single-blind, multi-center, in home use study to evaluate sexual enhancement effects of a product in females.

UBC-Content validity study of an electronic FSEP-R and FSDD-DAO and usability of study PRO measures in premenopausal women with FSAD, HSDD or Mixed FSAD/HSDD.

National registry trial for women with HSDD.

Endoceutics—two studies of DHEA for vaginal atrophy and dryness in post menopausal women.

Palatin—study of SQ Bremelanotide for HSDD and FSAD.

Trimel- a double-blind, placebo controlled study for women with acquired female orgasmic disorder.

S1 Biopharma- a phase 1-B non-blinded study of safety, tolerability and efficacy of Lorexys in premenopausal women with HSDD.

HRA – qualitative and cognitive interview study for men experiencing PE.

Publications

A) Books

- 1) Pariser SR, Levine SB, McDowell M (eds.), Clinical Sexuality, Marcel Dekker, New York, 1985
- 2) Sex Is Not Simple, Ohio Psychological Publishing Company, 1988; Reissued in paperback as: Solving Common Sexual Problems: Toward a Problem Free Sexual Life, Jason Aronson, Livingston, NJ. 1997
- 3) Sexual Life: A Clinician's Guide. Plenum Publishing Corporation. New York, 1992
- 4) Sexuality in Midlife. Plenum Publishing Corporation. New York, 1998
- 5) Editor, Clinical Sexuality. Psychiatric Clinics of North America, March, 1995.
- 6) Editor, (Candace Risen and Stanley Althof, associate editors) Handbook of Clinical Sexuality for Mental Health Professionals. Routledge, New York, 2003
 1. 2006 SSTAR Book Award: Exceptional Merit
- 7) Demystifying Love: Plain Talk For The Mental Health Professional. Routledge, New York, 2006
- 8) Senior editor, (Candace B. Risen and Stanley E. Althof, Associate editors), Handbook of Clinical Sexuality for Mental Health Professionals, 2nd edition. Routledge, New York, 2010.
- 9) Barriers to Loving: A Clinician's Perspective. Routledge, New York, 2014.
- 10) Senior editor Candace B. Risen and Stanley E. Althof, Associate editors), Handbook of Clinical Sexuality for Mental Health Professionals. 3rd edition Routledge, New York, 2016

B) Research and Invited Papers

When his name is not listed in a citation, Dr. Levine is either the solo or the senior author.

- 1) Sampliner R. Parotid enlargement in Pima Indians. *Annals of Internal Medicine* 1970; 73:571-73

- 2) Confrontation and residency activism: A technique for assisting residency change: World Journal of Psychosynthesis 1974; 6: 23-26
- 3) Activism and confrontation: A technique to spur reform. Resident and Intern Consultant 173; 2
- 4) Medicine and Sexuality. Case Western Reserve Medical Alumni Bulletin 1974;37:9-11.
- 5) Some thoughts on the pathogenesis of premature ejaculation. J. Sex & Marital Therapy 1975; 1:326-334
- 6) Marital Sexual Dysfunction: Introductory Concepts. Annals of Internal Medicine 1976;84:448-453
- 7) Marital Sexual Dysfunction: Ejaculation Disturbances 1976; 84:575-579
- 8) Yost MA: Frequency of female sexual dysfunction in a gynecology clinic: An epidemiological approach. Archives of Sexual Behavior 1976;5:229-238
- 9) Engel IM, Resnick PJ, Levine SB: Use of programmed patients and videotape in teaching medical students to take a sexual history. Journal of Medical Education 1976;51:425-427
- 10) Marital Sexual Dysfunction: Erectile dysfunction. Annals of Internal Medicine 1976;85:342-350
- 11) Male Sexual Problems. Resident and Staff Physician 1981:2:90-5
- 12) Female Sexual Problems. Resident and Staff Physician 1981:3:79-92
- 13) How can I determine whether a recent depression in a 40 year old married man is due to organic loss of erectile function or whether the depression is the source of the dysfunction? Sexual Medicine Today 1977;1:13
- 14) Corradi RB, Resnick PJ Levine SB, Gold F. For chronic psychologic impotence: sex therapy or psychotherapy? I & II Roche Reports; 1977
- 15) Marital Sexual Dysfunction: Female dysfunctions 1977; 86:588-597
- 16) Current problems in the diagnosis and treatment of psychogenic impotence. Journal of Sex & Marital Therapy 1977;3:177-186
- 17) Resnick PJ, Engel IM. Sexuality curriculum for gynecology residents. Journal of Medical Education 1978; 53:510-15
- 18) Agle DP. Effectiveness of sex therapy for chronic secondary psychological impotence Journal of Sex & Marital Therapy 1978;4:235-258
- 19) DePalma RG, Levine SB, Feldman S. Preservation of erectile function after aortoiliac reconstruction. Archives of Surgery 1978;113-958-962
- 20) Conceptual suggestions for outcome research in sex therapy Journal of Sex & Marital Therapy 1981;6:102-108

- 21) Lothstein LM. Transsexualism or the gender dysphoria syndrome. *Journal of Sex & Marital Therapy* 1982; 7:85-113
- 22) Lothstein LM, Levine SB. Expressive psychotherapy with gender dysphoria patients *Archives General Psychiatry* 1981; 38:924-929
- 23) Stern RG Sexual function in cystic fibrosis. *Chest* 1982; 81:422-8
- 24) Shumaker R. Increasingly Ruth: Towards understanding sex reassignment surgery *Archives of Sexual Behavior* 1983;12:247-61
- 25) Psychiatric diagnosis of patients requesting sex reassignment surgery. *Journal of Sex & Marital Therapy* 1980; 6:164-173
- 26) Problem solving in sexual medicine I. *British Journal of Sexual Medicine* 1982;9:21-28
- 27) A modern perspective on nymphomania. *Journal of Sex & Marital Therapy* 1982;8:316-324
- 28) Nymphomania. *Female Patient* 1982;7:47-54
- 29) Commentary on Beverly Mead's article: When your patient fears impotence. *Patient Care* 1982;16:135-9
- 30) Relation of sexual problems to sexual enlightenment. *Physician and Patient* 1983 2:62
- 31) Clinical overview of impotence. *Physician and Patient* 1983; 8:52-55.
- 32) An analytical approach to problem-solving in sexual medicine: a clinical introduction to the psychological sexual dysfunctions. II. *British Journal of Sexual Medicine*
- 33) Coffman CB, Levine SB, Althof SE, Stern RG Sexual Adaptation among single young adults with cystic fibrosis. *Chest* 1984;86:412-418
- 34) Althof SE, Coffman CB, Levine SB. The effects of coronary bypass in female sexual, psychological, and vocational adaptation. *Journal of Sex & Marital Therapy* 1984;10:176-184
- 35) Letter to the editor: Follow-up on Increasingly Ruth. *Archives of Sexual Behavior* 1984;13:287-9
- 36) Essay on the nature of sexual desire *Journal of Sex & Marital Therapy* 1984; 10:83-96
- 37) Introduction to the sexual consequences of hemophilia. *Scandinavian Journal of Haemology* 1984; 33:(supplement 40).75-
- 38) Agle DP, Heine P. Hemophilia and Acquired Immune Deficiency Syndrome: Intimacy and Sexual Behavior. *National Hemophilia Foundation*; July, 1985
- 39) Turner LA, Althof SE, Levine SB, Bodner DR, Kursh ED, Resnick MI.

External vacuum devices in the treatment of erectile dysfunction: a one-year study of sexual and psychosocial impact. *Journal of Sex & Marital Therapy*

40) Schein M, Zyzanski SJ, Levine SB, Medalie JH, Dickman RL, Alemagno SA. The frequency of sexual problems among family practice patients. *Family Practice Research Journal* 1988; 7:122-134

41) More on the nature of sexual desire. *Journal of Sex & Marital Therapy* 1987;13:35-44

42) Waltz G, Risen CB, Levine SB. Antiandrogen treatment of male sex offenders. *Health Matrix* 1987; V.51-55.

43) Lets talk about sex. National Hemophilia Foundation January, 1988

44) Sexuality, Intimacy, and Hemophilia: questions and answers . National Hemophilia Foundation January, 1988

45) Prevalence of sexual problems. *Journal Clinical Practice in Sexuality* 1988;4:14-16.

46) Kursh E, Bodner D, Resnick MI, Althof SE, Turner L, Risen CB, Levine SB. Injection Therapy for Impotence. *Urologic Clinics of North America* 1988; 15(4):625-630

47) Bradley SJ, Blanchard R, Coates S, Green R, Levine S, Meyer-Bahlburg H, Pauly I, Zucker KJ. Interim report of the DSM-IV Subcommittee for Gender Identity Disorders. *Archives of Sexual Behavior* 1991;;20(4):333-43.

48) Sexual passion in mid-life. *Journal of Clinical Practice in Sexuality* 1991 6(8):13-19

49) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DR, Resnick MI. Intracavernosal injections in the treatment of impotence: A prospective study of sexual, psychological, and marital functioning. *Journal of Sex & Marital Therapy* 1987; 13:155-167

50) Althof SE, Turner LA, Risen CB, Bodner DR, Kursh ED, Resnick MI. Side effects of self-administration of intracavernosal injection of papaverine and phentolamine for treatment of impotence. *Journal of Urology* 1989;141:54-7

51) Turner LA, Froman SL, Althof SE, Levine SB, Tobias TR, Kursh ED, Bodner DR. Intracavernous injection in the management of diabetic impotence. *Journal of Sexual Education and Therapy* 16(2):126-36, 1989

52) Is it time for sexual mental health centers? *Journal of Sex & Marital Therapy* 1989

53) Althof SE, Turner LA, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Sexual, psychological, and marital impact of self injection of papaverine and phentolamine: a long-term prospective study. *Journal of Sex & Marital Therapy*

- 54) Althof SE, Turner LA, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Why do so many men drop out of intracavernosal treatment? *Journal of Sex & Marital Therapy*. 1989;15:121-9
- 55) Turner LA, Althof SE, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Self injection of papaverine and phentolamine in the treatment of psychogenic impotence. *Journal of Sex & Marital Therapy*. 1989; 15(3):163-78
- 56) Turner LA, Althof SE, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Treating erectile dysfunction with external vacuum devices: impact upon sexual, psychological, and marital functioning. *Journal of Urology* 1990;141(1):79-82
- 57) Risen CB, Althof SE. An essay on the diagnosis and nature of paraphilia *Journal of Sex & Marital Therapy* 1990; 16(2):89-102.
- 58) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. Through the eyes of women: the sexual and psychological responses of women to their partners' treatment with self-injection or vacuum constriction therapy. *International Journal of Impotence Research (supplement 2)*1990;346-7.
- 59) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. A comparison of the effectiveness of two treatments for erectile dysfunction: self injection vs. external vacuum devices. . *International Journal of Impotence Research (supplement 2)*1990;289-90
- 60) Kursh E, Turner L, Bodner D, Althof S, Levine S. A prospective study on the use of the vacuum pump for the treatment of impotence.*International Journal of Impotence Research (supplement 2)*1990;340-1.
- 61) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. Long term use of intracavernous therapy in the treatment of erectile dysfunction in *Journal of Sex & Marital Therapy* 1991; 17(2):101-112
- 62) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. Long term use of vacuum pump devices in the treatment of erectile dysfunction in *Journal of Sex & Marital Therapy* 1991;17(2):81-93
- 63) Turner LA, Althof SE, Levine SB, Bodner DB, Kursh ED, Resnick MI. A 12-month comparison of the effectiveness of two treatments for erectile dysfunction: self injection vs. external vacuum devices. *Urology* 1992;39(2):139-44
- 64) Althof SE, The pathogenesis of psychogenic impotence. *J. Sex Education and Therapy*. 1991; 17(4):251-66
- 65) Mehta P, Bedell WH, Cumming W, Bussing R, Warner R, Levine SB. Letter to the editor. Reflections on hemophilia camp. *Clinical Pediatrics* 1991; 30(4):259-260
- 66) Successful Sexuality. Belonging/Hemophilia. (Caremark Therapeutic

Services), Autumn, 1991

67) Psychological intimacy. *Journal of Sex & Marital Therapy* 1991; 17(4):259-68

68) Male sexual problems and the general physician, *Georgia State Medical Journal* 1992; 81(5): 211-6

69) Althof SE, Turner LA, Levine SB, Bodner DB, Kursh E, Resnick MI. Through the eyes of women: The sexual and psychological responses of women to their partner's treatment with self-injection or vacuum constriction devices. *Journal of Urology* 1992; 147(4):1024-7

70) Curry SL, Levine SB, Jones PK, Kurit DM. Medical and Psychosocial predictors of sexual outcome among women with systemic lupus erythematosus. *Arthritis Care and Research* 1993; 6:23-30

71) Althof SE, Levine SB. Clinical approach to sexuality of patients with spinal cord injury. *Urological Clinics of North America* 1993; 20(3):527-34

72) Gender-disturbed males. *Journal of Sex & Marital Therapy* 19(2):131-141, 1993

73) Curry SL, Levine SB, Jones PK, Kurit DM. The impact of systemic lupus erythematosus on women's sexual functioning. *Journal of Rheumatology* 1994; 21(12):2254-60

74) Althof SE, Levine SB, Corty E, Risen CB, Stern EB, Kurit D. Clomipramine as a treatment for rapid ejaculation: a double-blind crossover trial of 15 couples. *Journal of Clinical Psychiatry* 1995;56(9):402-7

75) Risen CB, Althof SE. Professionals who sexually offend: evaluation procedures and preliminary findings. *Journal of Sex & Marital Therapy* 1994; 20(4):288-302

76) On Love, *Journal of Sex & Marital Therapy* 1995; 21(3):183-191

77) What is clinical sexuality? *Psychiatric Clinics of North America* 1995; 18(1):1-6

78) "Love" and the mental health professions: Towards an understanding of adult love. *Journal of Sex & Marital Therapy* 1996; 22(3)191-202

79) The role of Psychiatry in erectile dysfunction: a cautionary essay on the emerging treatments. *Medscape Mental Health* 2(8):1997 on the Internet. September, 1997.

80) Discussion of Dr. Derek Polonsky's SSTAR presentation on Countertransference. *Journal of Sex Education and Therapy* 1998; 22(3):13-17

81) Understanding the sexual consequences of the menopause. *Women's Health in Primary Care*, 1998

- 82) Fones CSL, Levine SB. Psychological aspects at the interface of diabetes and erectile dysfunction. *Diabetes Reviews* 1998; 6(1):1-8
- 83) Guay AT, Levine SB, Montague DK. New treatments for erectile dysfunction. *Patient Care* March 15, 1998
- 84) Extramarital Affairs. *Journal of Sex & Marital Therapy* 1998; 24(3):207-216
- 85) Levine SB (chairman), Brown G, Cohen-Kettenis P, Coleman E, Hage JJ, Petersen M, Pfäfflin F, Shaeffer L, van Masdam J, Standards of Care of the Harry Benjamin International Gender Dysphoria Association, 5th revision, 1998. *International Journal of Transgenderism* at <http://www.symposion.com/ijt>
 - Reprinted by the Harry Benjamin International Gender Dysphoria Association, Minneapolis, Minnesota
- 86) Althof SE, Corty E, Levine SB, Levine F, Burnett A, McVary K, Stecher V, Seftel. The EDITS: the development of questionnaires for evaluating satisfaction with treatments for erectile dysfunction. *Urology* 1999;53:793-799
- 87) Fones CSL, Levine SB, Althof SE, Risen CB. The sexual struggles of 23 clergymen: a follow-up study. *Journal of Sex & Marital Therapy* 1999
- 88) The Newly Devised Standards of Care for Gender Identity Disorders. *Journal of Sex Education and Therapy* 24(3):1-11,1999
- 89) Levine, S. B. (1999). The newly revised standards of care for gender identity disorders. *Journal of Sex Education & Therapy*, 24, 117-127.
- 90) Melman A, Levine SB, Sachs B, Segraves RT, Van Driel MF. Psychological Issues in Diagnosis of Treatment (committee 11) in Erectile Dysfunction (A. Jarden, G. Wagner, S. Khoury, F. Guiliano, H. Padma-nathan, R. Rosen, eds.) Plymbridge Distributors Limited, London, 2000
- 91) Pallas J, Levine SB, Althof SE, Risen CB. A study using Viagra in a mental health practice. J Sex&Marital Therapy.26(1):41-50, 2000
- 92) Levine SB, Stagno S. Informed Consent for Case Reports: the ethical dilemma between right to privacy and pedagogical freedom. *Journal of Psychotherapy: Practice and Research*, 2001, 10 (3): 193-201.
- 93) Alloggiamento T., Zipp C., Raxwal VK, Ashley E, Dey S. Levine SB, Froelicher VF. Sex, the Heart, and Sildenafil. *Current Problems in Cardiology* 26 June 2001(6):381-416
- 94) Re-exploring The Nature of Sexual Desire. *Journal of Sex and Marital Therapy* 28(1):39-51, 2002.
- 95) Understanding Male Heterosexuality and Its Disorders in *Psychiatric Times* XIX(2):13-14, February, 2002
- 96) Erectile Dysfunction: Why drug therapy isn't always enough. (2003)

Cleveland Clinic Journal of Medicine, 70(3): 241-246.

97) The Nature of Sexual Desire: A Clinician's Perspective. Archives of Sexual Behavior 32(3):279-286, 2003 .

98) Laura Davis. What I Did For Love: Temporary Returns to the Male Gender Role. International Journal of Transgenderism, 6(4), 2002 and <http://www.symposion.com/ijt>

99) Risen C.B., The Crisis in the Church: Dealing with the Many Faces of Cultural Hysteria in The International Journal of Applied Psychoanalytic Studies, 1(4):364-370, 2004

100) Althof SE, Leiblum SR (chairpersons), Chevert-Measson M. Hartman U., Levine SB, McCabe M., Plaut M, Rodrigues O, Wylie K., Psychological and Interpersonal Dimensions of Sexual Function and Dysfunction in World Health Organization Conference Proceedings on Sexual Dysfunctions, Paris, 2003. Published in a book issued in 2004.

101) Commentary on Ejaculatory Restrictions as a Factor in the Treatment of Haredi (Ultra-Orthodox) Jewish Couples: How Does Therapy Work? Archives of Sexual Behavior, 33(3):June 2004

102) What is love anyway? J Sex & Marital Therapy 31(2):143-152,2005.

103) A Slightly Different Idea, Commentary on Y. M. Binik's Should Dyspareunia Be Retained as a Sexual Dysfunction in DSM-V? A Painful Classification Decision. Archives of Sexual Behavior 34(1):38-39, 2005. <http://dx.doi.org/10.1007/s10508-005-7469-3>

104) Commentary: Pharmacologic Treatment of Erectile Dysfunction: Not always a simple matter. BJM USA; Primary Care Medicine for the American Physician, 4(6):325-326, July 2004

105) Leading Comment: A Clinical Perspective on Infidelity. Journal of Sexual and Relationship Therapy, 20(2):143-153, May 2005.

106) Multiple authors. Efficacy and safety of sildenafil citrate (Viagra) in men with serotonergic antidepressant-associated erectile dysfunction: Results from a randomized, double-blind, placebo-controlled trial. Submitted to Journal of Clinical Psychiatry Feb 2005

107) Althof SE, Leiblum SR, Chevert-Measson M, Hartman U, Levine SB, McCabe M, Plaut M, Rodrigues O, Wylie K. Psychological and Interpersonal Dimensions of Sexual Function and Dysfunction. Journal of Sexual Medicine, 2(6): 793-800, November, 2005

108) Shifren JL, Davis SR, Moreau M, Waldbaum A, Bouchard C., DeRogatis L., Derzko C., Bearnson P., Kakos N., O'Neill S., Levine S., Wekselman K., Buch A., Rodenberg C., Kroll R. Testosterone Patch for the Treatment of Hypoactive Sexual

Desire Disorder in Naturally Menopausal Women: Results for the INTIMATE NM1 Study. *Menopause: The Journal of the North American Menopause Society* 13(5) 2006.

109) Reintroduction to Clinical Sexuality. *Focus: A Journal of Lifelong Learning in Psychiatry* Fall 2005. III (4):526-531

110) PDE-5 Inhibitors and Psychiatry in *J Psychiatric Practice* 12 (1): 46-49, 2006.

111) Sexual Dysfunction: What does love have to do with it? *Current Psychiatry* 5(7):59-68, 2006.

112) How to take a Sexual History (Without Blushing), *Current Psychiatry* 5(8): August, 2006.

113) Linking Depression and ED: Impact on sexual function and relationships in Sexual Function and Men's Health Through the Life Cycle under the auspices of the Consortium for Improvement of Erectile Function (CIEF), 12-19, November, 2006.

114) The First Principle of Clinical Sexuality. Editorial. *Journal of Sexual Medicine*, 4:853-854, 2007

115) Commentary on David Rowland's editorial, "Will Medical Solutions to Sexual Problems Make Sexological Care and Science Obsolete?" *Journal of Sex and Marital Therapy*, 33(5), 2007

116) Real-Life Test Experience: Recommendations for Revisions to the Standards of Care of the World Professional Association for Transgender Health *International Journal of Transgenderism*, Volume 11 Issue 3, 186-193, 2009

117) Sexual Disorders: Psychiatrists and Clinical Sexuality. *Psychiatric Times* XXIV (9), 42-43, August 2007

118) I am not a sex therapist! Commentary to I. Binik and M. Meana's article Sex Therapy: Is there a future in this outfit? *Archives of Sexual Behavior*, Volume 38, Issue 6 (2009), 1033-1034

119) Solomon A (2009) Meanings and Political Implications of "Psychopathology" in a Gender Identity Clinic: Report of 10 cases. *Journal of Sex and Marital Therapy* 35(1): 40-57.

120) Perelman, MA., Levine SB, Fischkoff SA. Randomized, Placebo-Controlled, Crossover Study to Evaluate the Effects of Intranasal Bremelanotide on Perceptions of Desire and Arousal in Postmenopausal Women with Sexual Arousal Disorder submitted to *Journal of Sexual Medicine* July 2009, rejected

121) What is Sexual Addiction? *Journal of Sex and Marital Therapy*. 2010 May;36(3):261-75

- 122) David Scott (2010) Sexual Education of Psychiatric Residents. *Academic Psychiatry*, 34(5) 349-352.
- 123) Chris G. McMahon, Stanley E. Althof, Joel M. Kaufman, Jacques Buvat, Stephen B. Levine, Joseph W. Aquilina, Fisseha Tesfaye, Margaret Rothman, David A. Rivas, Hartmut Porst. Efficacy and Safety of Dapoxetine for the Treatment of Premature Ejaculation: Integrated Analysis of Results From 5 Phase 3 Trials *Journal of Sexual Medicine* 2011 Feb;8(2):524-39.
- 124) Commentary on Consideration of Diagnostic Criteria for Erectile Dysfunction in DSM V. *Journal of Sexual Medicine* July 2010
- 125) Hypoactive Sexual Desire Disorder in Men: Basic types, causes, and treatment. *Psychiatric Times* 27(6)4-34. 2010
- 126) Male Sexual Dysfunctions, an audio lecture, American Physician Institute 2013
- 127) Fashions in Genital Fashion: Where is the line for physicians? Commentary on David Veale and Joe Daniels' Cosmetic Clitoridectomy in a 33-year-old woman. *Arch Sex Behav* (2012) 41:735–736 DOI 10.1007/s10508-011-9849-7
- 128) Review: Problematic Sexual Excess. *Neuropsychiatry* 2(1):1-12, 2012
- 129) The Essence of Psychotherapy. *Psychiatric Times* 28 (2): August 2, 2012 t
- 130) Parran TV, Pisman, AR, Youngner SJ, Levine SB. Evolution of remedial CME course in professionalism: Addressing learner needs, developing content, and evaluating outcomes. *Journal of Continuing Education in the Health Professions*, 33(3): 174-179, 2013.
- 131) Love and Psychiatry. *Psychiatric Times* November 2013
- 132) Orgasmic Disorders, Sexual Pain Disorders, and Sexual Dysfunction Due to a Medical Condition. Board Review Psychiatry 2013-2014 Audio Digest CD 27. Audio recording of a one-hour lecture available October 2013.
- 133) Towards a Compendium of the Psychopathologies of Love. *Archives of Sexual Behavior Online* First December 25, 2013 DOI 10.1007/s10508-013-0242-6 43(1)213-220.
- 134) Flibanserin. (editorial) *Archives of Sexual Behavior* 44 (8), 2015 November 2015. DOI: 10.1007/s10508-015-0617-y
- 135) Martel C, Labrie F, Archer DF, Ke Y, Gonthier R, Simard JN, Lavoie L, Vaillancourt M, Montesino M, Balser J, Moyneur É; other participating members of the Prasterone Clinical Research Group. (2016) Serum steroid concentrations remain within normal postmenopausal values in women receiving daily 6.5mg intravaginal prasterone for 12 weeks. *J Steroid Biochem Mol Biol*. 2016 May;159:142-53. doi: 10.1016/j.jsbmb.2016.03.016

- 136) Reflections of an Expert on the Legal Battles Over Prisoners with Gender Dysphoria. *J Am Acad Psychiatry Law* 44:236–45, 2016
- 137) Cooper E, McBride J, Levine SB. Does Flibanserin have a future? *Psychiatric Times* accepted October 23, 2015.
- 138) Levine SB, Sheridan DL, Cooper EB. The Quest for a Prosexual Medication for Women, *Current Sexual Health Reports* (2016) 8: 129. doi:10.1007/s11930-016-0085-y
- 139) Why Sex Is Important: Background for Helping Patients with Their Sexual Lives., *British Journal of Psychiatry Advances* (2017), vol. 23(5) 300-306; DOI: 10.1192/apt.bp.116.016428
- 140) Commentary on "Asexuality: Orientation, paraphilia, dysfunction, or none of the above? *Archives Sexual Behavior*, Archives of Sexual Behavior April 2017, Volume 46, Issue 3, pp. 639–642 DOI: 10.1007/s10508-017-0947-z
- 141) Sexual Dysfunction in Clinical Psychiatry, *Psychiatric Times*, March 2017
- 142) Ethical Concerns About the Emerging Treatment of Gender Dysphoria, *Journal of Sex and Marital Therapy*, 44(1):29-44. 2017. DOI 10.1080/0092623X.2017.1309482
- 143) The Psychiatrist's Role in Managing Transgender Youth: Navigating Today's Politicized Terrain. CMEtoGO Audio Lecture Series, May 2017
- 144) Transitioning Back to Maleness, *Archives of Sexual Behavior*, 2017 Dec 20. doi: 10.1007/s10508-017-1136-9; 47(4), 1295-1300, May 2018
- 145) Informed Consent for Transgender Patients, *Journal of Sex and Marital Therapy*, 2018 Dec 22:1-12. doi: 10.1080/0092623X.2018.1518885.
- 146) Reflections On The Clinician's Role with Individuals Who Self-Identify as Transgender (2021) *Archives Sexual Behavior*, 50(8):3527-3536. doi: 10.1007/s10508-021-02142-1.
- 147) Levine SB, Abbruzzese E, Mason J. Reconsideration of Informed Consent for Trans-identified Children, Adolescents, and Young Adults. *J. Sex and Marital Therapy*, in press 2022.

C) Book Chapters

- 1) Overview of Sex Therapy. In Sholevar GP (ed) *The Handbook of Marriage and Marital Therapy*. New York. Spectrum Publications, 1981 pp. 417-41
- 2) Why study sexual functioning in diabetes? In Hamburg BA, Lipsett LF, Inoff GE, Drash A (eds) *Behavioral & Psychosocial Issues in Diabetes: Proceedings of a National conference*. Washington, DC. US Dept. of Health & Human Services. PHS NIH, Pub. #80-1933

- 3) Sexual Problems in the Diabetic in Bleicher SJ, Brodoff B (eds) Diabetes Mellitus and Obesity. Williams and Wilkins, 1992
- 4) Clinical Introduction to Human Sexual Dysfunction. In Pariser SF, Levine SB, McDowell M (eds) Clinical Sexuality. New York, Marcel Dekker Publisher, 1983.
- 5) Psychodynamically-oriented clinician's overview of psychogenic impotence. In RT Segraves (ed) Impotence. New York, Plenum, 1985
- 6) Origins of sexual preferences. In Shelp EE (ed) Sexuality and Medicine. D. Reidel Publishing co. 1987. pp. 39-54.
- 7) Hypoactive Sexual Desire and Other Problems of Sexual Desire. In H. Lief (ed). The Treatment of Psychosexual Dysfunctions/ III. American Psychiatric Press, chapter 207, pp. 2264-79, 1989
- 8) Psychological Sexual Dysfunction. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 9) Male sexual dysfunction. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 10) Sexuality and Aging. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 11) Homosexuality. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 12) Individual and intrapsychic factors in sexual desire. In Leiblum SR, Rosen RC (eds). Clinical Perspectives on Sexual Desire Disorders. Guilford Press, New York, 1988, pp. 21-44
- 13) Gender Identity Disorders. In Sadock B, Kaplan H(eds). Comprehensive Textbook of Psychiatry, Baltimore, William and Wilkins, 1989, pp. 1061-9
- 14) Intrapsychic and Interpersonal Aspects of Impotence: Psychogenic Erectile Dysfunction. In Leiblum SR, Rosen RC (eds). Erectile Disorders: Assessment and Treatment. Guilford Press, New York, 1992
- 15) Psychological Factors in Impotence. In Resnick MI, Kursh ED, (eds.) Current Therapy in Genitourinary Surgery, 2nd edition. BC Decker, 1991, pp. 549-51
- 16) The Vagaries of Sexual Desire. In Leiblum SR, Rosen RC (eds). In Case Studies in Sex Therapy. Guilford Press, New York, 1995
- 17) Rosenblatt EA. Sexual Disorders (chapter 62). In Tasman A, Kay J, Liberman JA (eds). Psychiatry Volume II, W.B.Saunders, Philadelphia. 1997, pp. 1173-2000.
- 18) Althof SE. Psychological Evaluation and Sex Therapy. In Mulcahy JJ (ed)

Diagnosis and Management of Male Sexual Dysfunction Igaku-Shoin, New York, 1996, pp. 74-88

19) Althof SE, Levine SB. Psychological Aspects of Erectile Dysfunction. In Hellstrum WJG (ed) Male Infertility and Dysfunction. Springer-Verlag, New York, 1997. pp. 468-73

20) Paraphilias. In Comprehensive Textbook of Psychiatry/VII. Sadock BJ, Sadock VA (eds.) Lippincott Williams & Wilkins, Baltimore, 1999, pp. 1631-1645.

21) Women's Sexual Capacities at Mid-Life in The Menopause: Comprehensive Management B. Eskin (ed). Parthenon Publishing, Carnforth, UK, 2000.

22) Male Heterosexuality in Masculinity and Sexuality: Selected Topics in the Psychology of Men, (Richard C. Friedman and Jennifer I. Downey, eds) Annual Review of Psychiatry, American Psychiatric Press, Washington, DC, W-18. pp. 29-54.

23) R.T.Segraves. Introduction to section on Sexuality: Treatment of Psychiatric Disorders-III (G.O.Gabbard, ed), American Psychiatric Press, Washington, DC, 2001

24) Sexual Disorders (2003) in Tasman A, Kay J, Liberman JA (eds). Psychiatry 2nd edition, Volume II, W.B.Saunders, Philadelphia. Chapter 74

25) What Patients Mean by Love, Psychological Intimacy, and Sexual Desire (2003) in SB Levine, CB Risen, SE Althof (eds) Handbook of Clinical Sexuality for Mental Health Professionals, Brunner-Routledge, New York, pp. 21-36.

26) Infidelity (2003) in SB Levine, CB Risen, SE Althof (eds) Handbook of Clinical Sexuality for Mental Health Professionals, Brunner-Routledge, New York, pp. 57-74

27) Preface (2003) in SB Levine, CB Risen, SE Althof (eds) Handbook of Clinical Sexuality for Mental Health Professionals, Brunner-Routledge, New York, pp. xiii-xviii

28) A Psychiatric Perspective on Psychogenic Erectile Dysfunction (2004) in T.F. Lue (ed) Atlas of Male Sexual Dysfunction, Current Medicine, Philadelphia Chapter 5

29) Levine, SB., Seagraves, RT. Introduction to Sexuality Section, Treatment of Psychiatric Disorders, 3rd edition (Gabbard GO, editor), American Psychiatric Press, 2007

30) Risen CB, (2009) Professionals Who Are Accused of Sexual Boundary Violations In Sex Offenders: Identification, Risk Assessment, Treatment, and Legal Issues edited by Fabian M. Saleh, Albert J. Grudzinskas, Jr., and John M. Bradford, Oxford University Press, 2009

31) What Patients Mean by Love, Intimacy, and Sexual Desire, in Handbook of

Clinical Sexuality for Mental Health Professionals edited by Levine SB, Risen, CB, and Althof, SE, Routledge, New York, 2010

32) Infidelity in Handbook of Clinical Sexuality for Mental Health Professionals edited by Levine SB, Risen, CB, and Althof, SE, Routledge, New York, 2010

33) Scott DL, Levine, SB. Understanding Gay and Lesbian Life in Handbook of Clinical Sexuality for Mental Health Professionals edited by Levine SB, Risen, CB, and Althof, SE, Routledge, New York, 2010

34) Levine, SB, Hasan, S., Boraz M. (2009) Male Hypoactive Sexual Desire Disorder (HSDD) in Clinical Manual of Sexual Disorders (R. Balon and RT Segraves, eds), American Psychiatric Press, Washington, DC.

35) Levine, SB. Sexual Disorders in Fundamentals of Psychiatry (by Allan Tasman and Wanda Mohr, eds.)
<<http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470665777.html>>, .

36) Infidelity in Principles and Practices of Sex Therapy (I Binik, K. Hall, editors), 5th edition, Guilford Press, New York, 2014.

37) Why is Sex Important? In Handbook of Clinical Sexuality for Mental Health Professionals 3rd ed. [SB Levine, CB Risen, SE Althof, eds] New York. Routledge, 2016, Chapter 1

38) The Rich Ambiguity of Key Terms: Making Distinctions. In Handbook of Clinical Sexuality for Mental Health Professionals 3rd ed. [SB Levine, CB Risen, SE Althof, eds] New York. Routledge, 2016. Chapter 4

39) The Mental Health Professional's Treatment of Erection Problems . In Handbook of Clinical Sexuality for Mental Health Professionals 3rd ed. [SB Levine, CB Risen, SE Althof, eds] New York. Routledge, 2016 Chapter 11

40) Why is Sex Important? In Sexual Health in the Couple: Management of Sexual Dysfunction in Men and Women [L Lipshultz, A Pastuszak, M Perelman, A Giraldi, J Buster, eds.] New York, Springer, 2016.

41) Sommers, B., Levine, S.B., Physician's Attitude Towards Sexuality, in Psychiatry and Sexual Medicine: A Comprehensive Guide for Clinical Practitioners, 2020.

42) Boundaries And The Ethics Of Professional Misconduct in A. Steinberg, J. L. Alpert, C A. Courtois(Eds.) Sexual Boundary Violations In Psychotherapy: Therapist Indiscretions, & Transgressions, & Misconduct American Psychological Association, 2021.

D) Book Reviews

1) Homosexualities: A Study of Diversity Among Men and Women by Alan P. Bell and Martin S. Weinberg, Simon and Schuster, New York, 1978. In Journal of

Sex & Marital Therapy 1979; 5:

- 2) Marriage and Marital Therapies: Psychoanalytic, Behavioral & System Theory Perspectives by TJ Paolino and BS McCrady. Brunner/Mazel, New York, 1978. In Journal of Sex & Marital Therapy 1979; 5:
- 3) Management of Male Impotence. Volume 5 International Perspectives in Urology AH Bennett, (ed) Williams and Wilkins, Baltimore, 1992. In American Journal of Psychiatry, 1984
- 4) The Sexual Relationship by DE Scharff, Routledge & Kegan Paul, 1982 in Family Process 1983;22:556-8
- 5) Phenomenology and Treatment of Psychosexual Disorders, by WE Fann, I Karacan, AD Pokorny, RL Williams (eds). Spectrum Publications, New York, 1983. In American Journal of Psychiatry 1985;142:512-6
- 6) The Treatment of Sexual Disorders: Concepts and Techniques of Couple Therapy, G Arentewicz and G Schmidt. Basic Books, New York, 1983. In American Journal of Psychiatry 1985;142:983-5
- 7) Gender Dysphoria: Development, Research, Management. BN Steiner (ed). Plenum Press, 1985 in Journal of Clinical Psychiatry, 1986
- 8) Gender Dysphoria: Development, Research, Management. BN Steiner (ed). Plenum Press, 1985 in Contemporary Psychology 1986:31:421-2 [titled, The Limitations of Science, the Limitations of Understanding]
- 9) Psychopharmacology of Sexual Disorders by M Segal (ed) John Libbey & Co Ltd, London, 1987 in American Journal of Psychiatry 1987;144:1093
- 10) "The Sissy Boy Syndrome" and the Development of Homosexuality by R Green. Yale University Press, New Haven, 1987. In American Journal of Psychiatry 1988;145:1028
- 11) Male Homosexuality: A contemporary psychoanalytic perspective by RC Friedman, Yale University Press, New Haven, 1988 in Journal of Clinical Psychiatry 1989;50:4, 149
- 12) Sexual Landscapes: Why we are what we are, why we love whom we love. By JD Weinrich, Charles Schribner's Sons, New York, 1987 in Archives of Sexual Behavior 21 (3):323-26, 1991
- 13) How to Overcome Premature Ejaculation by HS Kaplan, Brunner/Mazel, New York, 1989 in Journal of Clinical Psychiatry 51(3):130, 1990
- 14) Clinical Management of Gender Identity Disorders in Children and Adults R. Blanchard, BN Steiner (eds) American Psychiatry Press, Washington, DC, 1990. In Journal of Clinical Psychiatry 52(6):283, 1991
- 15) Psychiatric Aspects of Modern Reproductive Technologies. NL Stotland

- (ed) American Psychiatric Press, Washington DC, 1990. In *Journal of Clinical Psychiatry* 1991;52(9):390
- 16) Homosexualities: Reality, Fantasy, and the Arts. CW Socarides, VD Volkan (eds). International Universities Press, Madison, Connecticut, 1990. In *Journal of Clinical Psychiatry* 1992;(10)
 - 17) Reparative Therapy of Male Homosexuality: A New Clinical Approach. J Nicolosi, Jason Aronson, Northvale NJ, 1992. In *Contemporary Psychology* 38(2):165-6, 1993 [entitled Is Evidence Required?]
 - 18) Male Victims of Sexual Assault, GC Mezey, MB King (eds) Oxford University Press, New York, 1992. In *Journal of Clinical Psychiatry* 1993;54(9):358,
 - 19) AIDS and Sex: An Integrated Biomedical and Biobehavioral Approach. B Voeller, JM Reinisch, M Gottlieb, Oxford University Press, New York, 1990. In *American Journal of Psychiatry*
 - 20) Porn: Myths for the Twentieth Century by RJ Stoller, Yale University Press, New Haven, 1991. In *Archives of Sexual Behavior* 1995;24(6):663-668
 - 21) Sexual Dysfunction: Neurologic, Urologic, and Gynecologic Aspects. R Lechtenberg, DA Ohl (eds) Lea & Febiger, Philadelphia, 1994. In *Neurology*
 - 22) The Sexual Desire Disorders: Dysfunctional Regulation of Sexual Motivation. HS Kaplan Brunner/Mazel, New York, 1995. In *Neurology* 1996; 47:316
 - 23) Femininities, Masculinities, Sexualities: Freud and Beyond. N. Chodorow. The University Press of Kentucky, Lexington, 1994. *Archives of Sexual Behavior* 28(5):397-400,1999
 - 24) Sexual Function in People with Disability and Chronic Illness: A Health Professional's Guide by ML Sipski, CJ Alexander. Aspen Publishers, Gaithersburg, Md, 1997. In *Journal of Sex Education and Therapy*, 1998;23(2):171-2
 - 25) Sexual Aggression by J Shaw (ed). American Psychiatric Press, Washington, DC, 1998. In *American Journal of Psychiatry*, May, 1999
 - 26) *The Wounded Healer: Addiction-Sensitive Approach to the Sexually Exploitative Professional* by Richard Irons and Jennifer P. Schneider. Jason Aronson, Northvale, N.J., 1999 in *American Journal of Psychiatry* 157(5):8-9,2000.
 - 27) *Culture of the Internet* by Sara Kiesler (editor), Lawrence Erlbaum Associates, Mahway, New Jersey, 1997. 463pp in *Journal of Sex Research*, 2001
 - 28) *Psychological Perspectives on Human Sexuality*. Lenore T. Szuchman and Frank Muscarella (editors), Wiley and Sons, New York, *American Journal of Psychiatry*, April, 2002

- 29) “How Sexual Science Operates” a review of Sex, Love, and Health in America: Private Choices and Public Policies. EO Laumann and RT Michael, editors. Chicago, University of Chicago, 2001 in Second Opinion, The Park Ridge Center for the Study of Health, Faith, and Ethics, 11:82-3, April, 2004.
- 30) Sexual Orientation and Psychoanalysis: Sexual Science and Clinical Practice. R.C. Friedman and J.I. Downey (eds). New York. Columbia University Press. in Archives of Sexual Behavior (2003) 31(5):473-474
- 31) Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs, Jonathon Michel Metzl. Duke University Press, Durham, 2003 in American Journal of Psychiatry, November, 2004.
- 32) Sex and Gender by M. Diamond and A. Yates Child Psychiatric Clinics of North America W. B. Saunders, Philadelphia, Pennsylvania, 2004, 268 pp. in Archives of Sexual Behavior April 2007 online publication in Dec.2006 at <http://dx.doi.org/10.1007/s10508-006-9114-7>
- 33) Getting Past the Affair: A program to help you cope, heal, and move on— together or apart by Douglas K. Snyder, Ph.D, Donald H. Baucom, Ph.D, and Kristina Coop Gordon, Ph.D, New York, Guilford Press, 2007 in Journal of Sex and Marital Therapy,34:1-3, 2007
- 34) Dancing with Science, Ideology and Technique. A review of Sexual Desire Disorders: A casebook Sandra R. Leiblum editor, Guilford Press, New York, 2010. In Journal of Sex Research 2011.
- 35) What is more bizarre: the transsexual or transsexual politics? A review of Men Trapped in Men’s Bodies: Narratives of Autogynephilic Transsexualism by Anne A. Lawrence, New York, Springer, 2014. In Sex Roles: a Journal of Research, **70, Issue 3 (2014), Page 158-160**, 2014. DOI: 10.1007/s11199-013-0341-9
- 36) There Are Different Ways of Knowing. A review of: How Sexual Desire Works: The Enigmatic Urge by Frederick Toates, Cambridge, UK, Cambridge University Press, in Sexuality and Culture (2015) 19:407–409 DOI 10.1007/s12119-015-9279-0
- 37) The Dynamics of Infidelity: Applying Relationship Science to Clinical Practice by Lawrence Josephs, American Psychological Association, Washington, DC, 2018, pp. . 287, \$69.95 in Journal of Sex and Marital Therapy10.1080/0092623X.2018.1466954, 2018. For free access: <https://www.tandfonline.com/eprint/UgiIHbWbpdedsXWXpNf/full>
- 38) Transgender Mental Health by Eric Yarbrough, American Psychiatric Association Publications, 2018, Journal and Marital & Sexual Therapy, <https://doi.org/10.1080/0092623X.2018.1563345> .

The Cass Review

Independent review
of gender identity
services for children
and young people



Independent review of gender identity services for children and young people: Final report

April 2024

The copyright holder has consented to third parties republishing the material contained in this report. Where any material, or the copyright in such material, is identified as being owned by a third party you will need to obtain permission from that third party before republishing such material.

Contents

Foreword from the Chair	12
About this report	16
Language	18
Summary and recommendations	20
Key points and recommendations	23
Interim report	25
Understanding the patient cohort	26
Clinical approach and management	27
Assessment	28
Diagnosis	29
Individualised care plan	30
Psychological interventions	30
Social transition	31
Medical pathways	32
Long-term outcomes	33
Challenges in clinical decision making	34
Service model	36
Workforce	37
Training and education	38
Service improvement	39
Clinical research capacity	40
Pathways	41
Pathways within the service	41
Transfer to adult gender services	42
Detransition	43
Private provision	43
NHS number	44
Implementation	44
Wider system learning	45

Approach	46
1. Methodology	47
Understanding evidence	47
Building on evidence	52
Stakeholder engagement	60
Summary	64
Context	66
2. History of gender services for children and young people	67
Early gender services for children and young people	67
Emergence of the Dutch protocol	68
Move to an affirmative model	70
Use of puberty blockers in the UK	70
3. Why this Review?	75
NHS England Policy Working Group (PWG)	75
NICE evidence reviews	75
Commissioning of the Independent Review	77
4. Wider context	78
Bell v Tavistock	78
Care Quality Commission (CQC) report	79
Interim report and subsequent developments	80
Understanding the patient cohort	82
5. Changes in the patient profile	84
Sources of information	84
Demographics	85
Gender characteristics	90
Co-occurring conditions	90
Changes in the patient profile	97
6. Developmental considerations for children and adolescents	98
Changes from adolescence into adulthood	102
7. Growing up in the 2000s	106
Generational beliefs and gender identity	106
Online stressors and harm	109
Mental health in children and adolescents	110

8. Possible factors influencing the change in patient profile	114
Biological factors	114
Psychosocial factors	117
Conclusion	121
Clinical approach & clinical management	124
9. International practice and guidelines	126
Guideline appraisal	126
Key points of learning for the NHS	132
10. Assessment and diagnosis	134
International practice	134
NHS practice	136
Perspectives from service users and families	138
Holistic assessment framework	139
Formulation, diagnosis and care plan	143
11. Psychological and psychosocial interventions	150
Perspectives from service users and families	151
International guidelines and practice	152
Understanding the evidence	153
Current NHS practice	154
Summary - psychological and psychosocial interventions	155
12. Social transition	158
International practice	158
Reflections from the Multi-Professional Review Group	159
Perspectives from service users and families	159
Understanding the evidence	161
Summary - social transition	163
13. Medical pathways	166
Perspectives from service users and families	166
Existing endocrine practice in the UK	167
International practice	170
Summary - medical pathways	171
14. Puberty blockers	172
Normal pubertal development	172
Rationale for the use of puberty blockers for gender dysphoria	173
International practice	174
Understanding intended benefits and risks of puberty blockers	175
Summary - puberty blockers	179

15. Masculinising/feminising hormones	182
International practice	182
Understanding the evidence	183
Key considerations	184
16. Challenges in clinical decision making	192
Assessing whether a treatment is clinically indicated	193
Best evidence and information	194
Competency and capacity to consent	195
Best interests of the child/young person	196
Conclusion	196
Service model	198
17. Existing service models	200
NHS England's interim service - establishing Phase 1 providers	201
International practice	202
Different service models in the NHS	204
18. A new model for gender services for children and young people	206
Summary - service model	210
Workforce	211
Training and education	212
Service improvement	214
Research capacity	215
19. Pathways	217
International practice	217
Current referral pathway	217
Recommended referral pathway	220
Pathways within the service	223
Discharge	224
Detransition	227
Private provision	227
Changing NHS number and access to healthcare	228
20. Implementation	230
Wider system learning	231
Final thoughts from the Chair	232

Glossary	234
References	248
Appendices	264
Appendix 1	264
Appendix 2	268
Appendix 3	270
Appendix 4	272
Appendix 5	274
Appendix 6	276
Appendix 7	278
Appendix 8	280
Appendix 9	282
Appendix 10	286
Appendix 11	288
Appendix 12	290

This page is intentionally left blank

Foreword from the Chair

*"Medicine's ground state is uncertainty.
Wisdom - for both the patients and doctors
- is defined by how one copes with it."*

Atul Gawande, Complications (2002)



Dr Hilary Cass

This Review is not about defining what it means to be trans, nor is it about undermining the validity of trans identities, challenging the right of people to express themselves, or rolling back on people's rights to healthcare. It is about what the healthcare approach should be, and how best to help the growing number of children and young people who are looking for support from the NHS in relation to their gender identity.

The Review has not been conducted in a vacuum. There have been many moving parts and a significant, often challenging public debate. I have been buffeted by different issues along the way but have tried to remain focused on my remit.

One of the great pleasures of the Review has been getting to meet and talk to so many interesting people. I want to thank all those who have generously given their time to share their stories, experiences and perspectives. I have spoken to transgender adults who are leading positive and successful lives, and feeling empowered by having made the decision to transition. I have spoken to people who have detransitioned, some of whom deeply regret their earlier decisions. I have spoken to many parents, with very different perspectives. Some have fought to get their children onto a medical pathway and have spoken about how frustrated they have felt to have to battle to get support. Others have felt a medical pathway

was entirely the wrong decision for their child and have described their dismay about actions taken without their consent and in ignorance of the various other difficulties their child may have been through, such as loss of a parent, traumatic illness, diagnosis of neurodiversity and isolation or bullying in school.

As well as hearing from those with lived experience, I have spoken to a very wide range of clinicians and academics. Clinicians who have spent many years working in gender clinics have drawn very different conclusions from their clinical experience about the best way to support young people with gender-related distress. Some feel strongly that a majority of those presenting to gender services will go on to have a long-term trans identity and should be supported to access a medical pathway at an early stage. Others feel that we are medicalising children and young people whose multiple other difficulties are manifesting through gender confusion and gender-related distress.

One thing unites all these people; they all believe passionately in what they have told me, and those with either parental or clinical responsibility for children and young people are trying their very best to do what they feel is the right thing to support them.

Despite the best intentions of everyone with a stake in this complex issue, the toxicity of the debate is exceptional. I have faced criticism for engaging with groups and individuals who take a social justice approach and advocate for gender affirmation, and have equally been criticised for involving groups and individuals who urge more caution. The knowledge and expertise of experienced clinicians who have reached different conclusions about the best approach to care are sometimes dismissed and invalidated.

There are few other areas of healthcare where professionals are so afraid to openly discuss their views, where people are vilified on social media, and where name-calling echoes the worst bullying behaviour. This must stop.

Polarisation and stifling of debate do nothing to help the young people caught in the middle of a stormy social discourse, and in the long run will also hamper the research that is essential to finding the best way of supporting them to thrive.

This is an area of remarkably weak evidence, and yet results of studies are exaggerated or misrepresented by people on all sides of the debate to support their viewpoint. The reality is that we have no good evidence on the long-term outcomes of interventions to manage gender-related distress.

It often takes many years before strongly positive research findings are incorporated into practice. There are many reasons for this. One is that doctors can be cautious in implementing new findings, particularly when their own clinical experience is telling them the current approach they have used over many years is the right one for their patients. Quite the reverse happened in the field of gender care for children. Based on a single Dutch study, which suggested that puberty blockers may improve psychological wellbeing for a narrowly defined group of children with gender incongruence, the practice spread at pace to other countries. This was closely followed by a greater readiness to start masculinising/feminising hormones in mid-teens, and the extension of this approach to a wider group of adolescents who would not have met the inclusion criteria for the original Dutch study. Some practitioners abandoned normal clinical approaches to holistic assessment, which has meant that this group of young people have been exceptionalised compared to other young people with similarly complex presentations. They deserve very much better.

On a personal note, I would like to talk through this foreword to the children and young people at the heart of this Review. I have decided not to write to you separately because it is important that everyone hears the same message. Some of you have been really clear that you want much better advice on the options available to you and the risks and benefits of different courses of action and will be pleased by what you will read in this report. Others of you have said you just want access to puberty blockers and hormones as quickly as possible, and may be upset that I am not recommending this. I have been very mindful that you may be disappointed by this. However, what I want to be sure about is that you are getting the best combination of treatments, and this means putting in place a research programme to look at all possible options, and to work out which ones give the best results. There are some important reasons for this decision.

Firstly, you must have the same standards of care as everyone else in the NHS, and that means basing treatments on good evidence. I have been disappointed by the lack of evidence on the long-term impact of taking hormones from an early age; research has let us all down, most importantly you. However, we cannot expect you to make life-changing decisions in a vacuum without being able to weigh their risks and benefits now and in the long-term, and we have to build the evidence-base with good studies going forward. That is why I am asking you to join any research

studies that look at the longer-term outcomes of these interventions so you can help all those coming behind you. We have to show that the treatments are safe and produce the positive outcomes you want from them. People in research studies often do better than people who are on regular treatment because they get the chance to try new approaches, as well as getting much closer follow-up and support.

Secondly, medication is binary, but the fastest growing group identifying under the trans umbrella is non-binary, and we know even less about the outcomes for this group. Some of you will also become more fluid in your gender identity as you grow older. We do not know the 'sweet spot' when someone becomes settled in their sense of self, nor which people are most likely to benefit from medical transition. When making life-changing decisions, what is the correct balance between keeping options as flexible and open as possible as you move into adulthood, and responding to how you feel right now?

Finally, I know you need more than medical intervention, but services are really stretched, and you are not getting the wider support you need in managing any mental health problems, arranging fertility preservation, getting help with any challenges relating to neurodiversity, or even getting counselling to work through questions and issues you may have. We need to look at all the elements that are needed in a package of care that will help you thrive and fulfil your broader life goals.

The first step for the NHS is to expand capacity, offer wider interventions, upskill the broader workforce, take an individualised, personal approach to care, and put in place the mechanisms to collect the data needed for quality improvement and research.

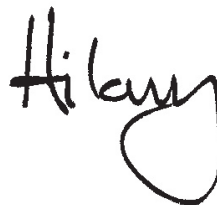
Expanding capacity at all levels of the system will not only allow for more timely care and space to explore, but also free-up the specialist services for those who need them most. I know there are many who have waited too long already and will continue to do so, and that like me, colleagues across the NHS are deeply concerned about this. We can't fix everything overnight, but we must make a start.

I would also like to share some thoughts with all my clinical colleagues. We have to start from the understanding that this group of children and young people are just that; children and young people first and foremost, not individuals solely defined by their gender incongruence or gender-related distress. We have to cut through the noise and polarisation to recognise that they need the same standards of high-quality care to meet their needs as any other child or young person. When you talk to these young people and their parents/carers, they want the same things as everyone else: the chance to be heard, respected and believed; to have their questions answered; and to access help and advice. It is only when they have been on very long waiting lists, and sidelined from usual care in local services, that they are forced to do their own research and may come to a single medical answer to their problems.

As experienced clinicians, you are familiar with dealing with complexity in presentation, but for this group of young people expertise has been concentrated in a small group of people, which has served to gatekeep the knowledge. We have heard many clinical staff question their capacity and capability and this has made them nervous about working within this population. I know you just need the appropriate training, support and most importantly the confidence to do what you have been trained to do and treat this population as you would any other young person in distress.

In conducting this Review I have had to make recommendations based on the currently available information. I am very aware that this is a point in time and as new evidence is gathered different insights might emerge. I have recommended a service model that has inbuilt mechanisms to be able to evolve and adapt with the emerging research overseen by appropriate governance structures both within individual NHS organisations and at a national level.

It is not just children and young people with gender-related distress who are facing emotional and social challenges, but the wider population of adolescents. We can only do our job by being ambitious for all children and young people and prioritising development of services to meet their broader needs.



Dr Hilary Cass, OBE

About this report

The Independent Review of Gender Identity Services for Children and Young People was commissioned by NHS England to make recommendations on the questions relating to the provision of these services as set out in the terms of reference.

The Review has been forward looking. Its role was to consider how the current clinical approach and service model should be improved. In order to do this, it has been necessary to understand the current landscape and why change is needed, so that any future model addresses existing challenges.

This report is primarily for the commissioners and providers of services for children and young people needing support around their gender. However, because of the wide interest in this topic, effort has been made to make it as accessible as possible, while also representing the data which are sometimes detailed and complex.

The Review is cognisant of the broader cultural and societal debates relating to the rights of transgender people. It is not the role of the Review to take any position on the beliefs that underpin these debates. Rather, this Review is strictly focused on the clinical services provided to children and young people who seek help from the NHS to resolve their gender-related distress.

The report has five parts:

1. Approach

2. Context

3. Understanding the patient cohort

4. Clinical approach and clinical management

5. Service model

Throughout, the Review has focused on hearing a wide range of perspectives to better understand the challenges within the current system and aspirations for how these could be addressed. This report does not contain all that we have heard but summarises consistent themes, using direct quotes to illustrate points made, where appropriate.

The report includes findings from the systematic reviews commissioned to inform the work. The full peer reviewed papers are available with open access at <https://adc.bmj.com/pages/gender-identity-service-series>.

The report represents a point in time and draws conclusions and makes recommendations based on the evidence that is currently available.

The Review is independent of the NHS and Government and neither required nor sought approval or sign-off of this report's contents prior to publication.

Language

Labels can be confusing; young people sometimes find them helpful and sometimes find them stigmatising. There is no consensus on the best language to use around this subject. The language surrounding this area has also changed rapidly and young people have developed varied ways of describing their experiences using different terms and constructs that are relevant to them.

The Review tries as far as possible to use language and terms that are respectful and acknowledge diversity, but that also accurately describe the complexity of what we are trying to articulate.

The terms used may not always feel right to some; nevertheless, it is important to emphasise that the language used is not an indication of a position being taken by the Review. A glossary of terms is included. Key definitions are:

Gender incongruence is the term used in the International Classification of Diseases Eleventh Revision (ICD-11) (World Health Organization, 2022) to describe “a marked and persistent incongruence between an individual’s experienced gender and the assigned sex”. It has been moved out of the “Mental and behavioural disorders” chapter and into the “Conditions related to sexual health” chapter so that it is not perceived as a mental health disorder. It does not include references to dysphoria or dysfunction.

Gender dysphoria is the term used in Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) (American Psychiatric Association, 2022). In the DSM-5-TR definition gender incongruence has to be associated with clinically significant distress or impairment of function. Younger children with gender incongruence may not experience dysphoria, but it commonly arises or increases as they enter puberty.

Gender dysphoria is the more commonly used term in research publications, as well as clinical settings. It is also most likely to be familiar to the lay public since it has been used widely in mainstream and social media. Like depression, it is a label that is used colloquially to describe feelings, as well as being a formal diagnosis.

Within the report, we use the term gender incongruence as defined above, and gender-related distress to describe the feelings that commonly arise or intensify during puberty and lead to a young person seeking help from the NHS.

The term child is used to refer to pre-pubertal children and young people to refer to under 18s who have entered puberty. The report also refers to adolescents when discussing the stages of brain development, and both adolescents and youth where the study being described uses these terms. Young adults refers to those between the ages of 18 and 30.

During the lifetime of the Review, the term trans has moved from being a quite narrow definition to being applied as an umbrella term to a broader spectrum of gender diversity. This report uses 'transgender' to describe binary transgender individuals and 'non-binary' for those who do not have a traditional gender binary of male or female. The term 'gender non-conforming' is used to describe those individuals who do not choose to conform to traditional gender norms and 'gender-questioning' as a broader term that might describe children and young people who are in a process of understanding their gender identity. The term 'trans' is used as the umbrella term.

The terms patient and service user are also used throughout the report. Although these have been used interchangeably, we have used service user when someone has used the service but may no longer be a patient under the service.

This report also includes citations from many other sources. It is important to note that these citations may use language and terminology that the Review would not choose. As a general rule, the report retains the language of the referenced papers. Any adaptation of a citation to provide clarity is represented.

The Review was commissioned by and is for the NHS in England, however throughout the report we use the terms NHSE, NHS and UK. This is usually to align with the papers and research being discussed.

Summary and recommendations

1. The aim of this Review is to make recommendations that ensure that children and young people who are questioning their gender identity or experiencing gender dysphoria receive a high standard of care. Care that meets their needs, is safe, holistic and effective. At its heart are vulnerable children and young people and an NHS service unable to cope with the demand.

2. Yet from the start, the Review stepped into an arena where there were strong and widely divergent opinions unsupported by adequate evidence. The surrounding noise and increasingly toxic, ideological and polarised public debate has made the work of the Review significantly harder and does nothing to serve the children and young people who may already be subject to significant minority stress.

3. Within this context the Review set out to understand the reasons for the growth in referrals and the changing epidemiology, and to identify the clinical approach and service model that would best serve this population.

4. There are conflicting views about the clinical approach, with expectation at times being far from usual clinical practice. This has made some clinicians fearful of working with gender-questioning young people, despite their presentation being similar to many children and young people presenting to other NHS services.

5. Although some think the clinical approach should be based on a social justice model, the NHS works in an evidence-based way.

Whilst navigating a way through the surrounding 'culture war', the Review has been acutely and increasingly aware of the need for evidence to support its thinking and ultimately the final recommendations made in this report.

6. When the Review started, the evidence base, particularly in relation to the use of puberty blockers and masculinising/feminising hormones, had already been shown to be weak. There was, and remains, a lot of misinformation easily accessible online, with opposing sides of the debate pointing to research to justify a position, regardless of the quality of the studies.

7. To understand the best way to support children and young people, the Review's ambition was therefore not only to understand the existing evidence, but also to improve the evidence base so that young people, their families and carers, and the clinicians working with them have the best information upon which to form their decisions.

8. To scrutinise the existing evidence the Review commissioned a robust and independent evidence review and research programme from the University of York to inform its recommendations and remained cautious in its advice whilst awaiting the findings.

9. The University of York's programme of work has shown that there continues to be a lack of high-quality evidence in this area and disappointingly, as will become clear in this report, attempts to improve the evidence base have been thwarted by a lack of cooperation from the adult gender services.

10. The Review has therefore had to base its recommendations on the currently available evidence, supplemented by its own extensive programme of engagement.

11. Hearing directly from people with lived experience and clinicians has provided valuable insight into the ways in which services are currently delivered and experienced. This has contributed to the Review's understanding of the positive experiences of living as a trans or gender diverse person, as well the uncertainties, complexities and challenges faced by children, young people, their families and carers, and those working in and around services trying to support them.

12. This report is organised into five parts:

- **Part 1** - Approach describes the Review's approach to the work undertaken.
- **Part 2** - Context explores the history of services for children and young people with gender dysphoria, highlighting the changing demographic and the rise in referral rate.
- **Part 3** - Understanding the patient cohort sets out what we have learnt about the characteristics of children and young people who are seeking NHS support for gender incongruence and considers what may be driving the rise in referrals and the change in the case-mix.
- **Part 4** - Clinical approach and clinical management looks at what we need to do to help children and young people to thrive: the purpose, expected benefits and outcomes of clinical interventions in the pathway, including the use of hormones and how to support complex presentations.
- **Part 5** - Service model considers the gender service delivery model, workforce requirements, pathways of care into this specialist service, further development of the evidence base and how to embed continuous clinical improvement and research.

13. At the end of this Review, while there is still uncertainty, the following remains true:

- There are children and young people, families and carers all trying to make sense of their individual situations, often dealing with considerable challenges and upheaval.
- The length of the waiting list to access gender services has significant implications for this population and NHS service delivery.
- Generalisations about children and young people questioning their gender identity or experiencing gender dysphoria are unhelpful. People are individuals.
- Young people's sense of identity is not always fixed and may evolve over time. There should be no hierarchy of gender identity or how this is expressed, be that socially or medically. Nobody should feel the need to invalidate their own experience for fear it reflects badly on other identities and choices.
- Whilst some young people may feel an urgency to transition, young adults looking back at their younger selves would often advise slowing down.
- For some, the best outcome will be transition, whereas others may resolve their distress in other ways. Some may transition and then de/retransition and/or experience regret. The NHS needs to care for all those seeking support.
- The care of this population needs to be holistic and personal. It may comprise a wide range of interventions and services, some of which can be delivered outside NHS specialist services.

- There remains diversity of opinion as to how best to treat these children and young people. The evidence is weak and clinicians have told us they are unable to determine with any certainty which children and young people will go on to have an enduring trans identity.
- Many primary and secondary care clinicians have concerns about their capacity and competence to work with this population and some are fearful of doing so given the surrounding social debate.
- Our current understanding of the long-term health impacts of hormone interventions is limited and needs to be better understood.
- Young people become particularly vulnerable at the point of transfer to adult services.

14. Whatever your views on gender identity, there is no denying there are increasing numbers of children and young people seeking support from the NHS for gender-related distress. They should receive the same quality of care as other children and young people experiencing distress.

15. A compassionate and kind society remembers that there are real children, young people, families, carers and clinicians behind the headlines. The Review believes that each individual child and young person seeking help from the NHS should receive the support they need to thrive.

Key points and recommendations

16. In considering the key questions outlined in the terms of reference, this Report can only set out what is known and unknown and think about how the NHS can respond safely, effectively and compassionately, leaving some issues

for wider societal debate. However, in order to gain as broad an understanding as possible the Review drew on several sources of information (see Figure 1), underpinned by basic scientific and clinical principles.

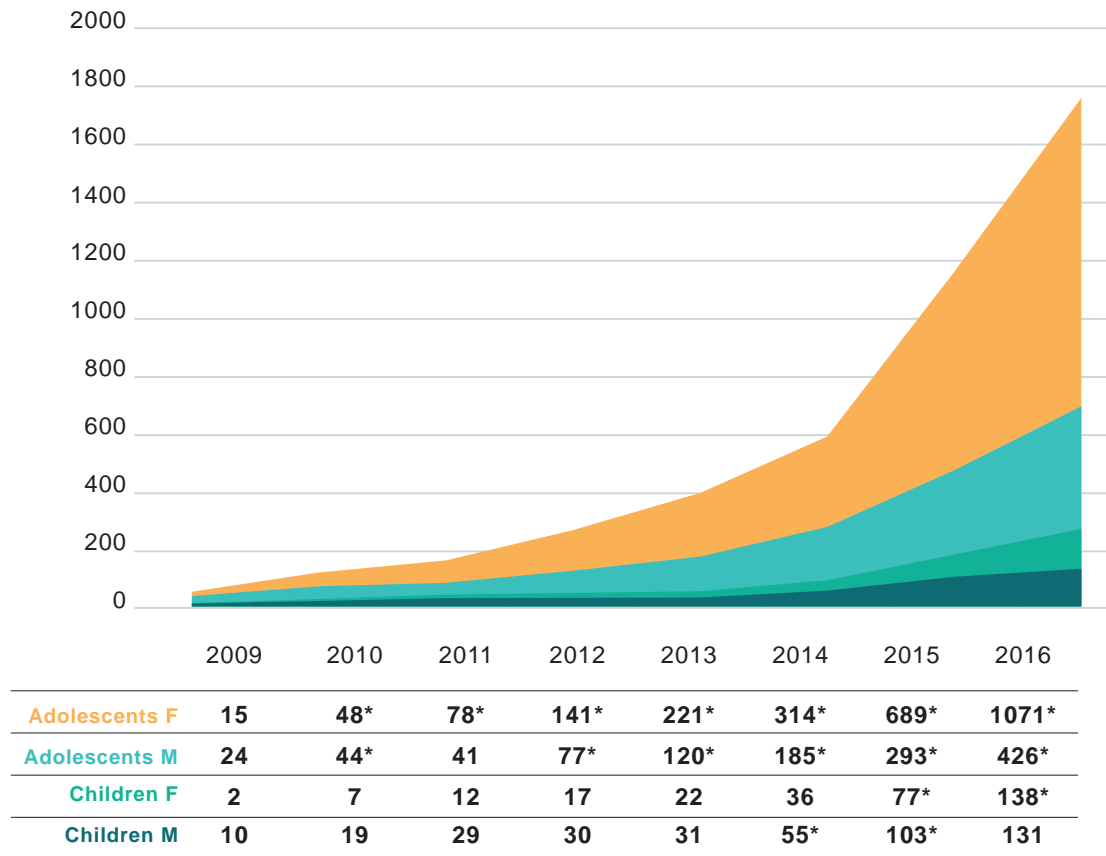
Figure 1: What has informed the Review?



17. The numbers of children and young people presenting to the UK NHS Gender Identity

Service (GIDS) has been increasing year on year since 2009, with an exponential rise in 2014.

Figure 2: Sex ratio in children and adolescents referred to GIDS in the UK (2009-16)



AFAB = Assigned female at birth

AMAB = Assigned male at birth

*Indicates $p < .05$ which shows a significant increase of referrals compared to previous year

Source: Figure adapted from de Graaf, N. M., Giovanardi, G., Zitz, C., & Carmichael, P. (2018). Sex ratio in children and adolescents referred to the Gender Identity Development Service in the UK (2009-2016). *Archives of Sexual Behavior*, 47(5), 1301-1304. <https://doi.org/10.1007/s10508-018-1204-9>, with permission from Springer Nature.

18. Prior to 2009, GIDS did not attract significant attention. At that time, the service saw fewer than 50 children per year, with even fewer receiving medical treatment. However, unprecedented demand and a change in the demographic of young people accessing gender services has generated a series of unresolved issues, a long waiting list and an unsustainable service model, one that was not set up to manage the new population.

19. The Review has focused on future provision and has not scrutinised previous provision, but it is necessary to look back to fully appreciate the context leading to the current circumstances and to learn lessons relating to previous and current clinical management and understand why change is needed.

20. GIDS was established in 1989. At that time, the service saw fewer than 10 children a year, predominantly pre-pubertal birth-registered males, and the main focus was therapeutic, with only a small proportion referred for hormone treatment by around age 16.

21. The approach to treatment changed with the emergence of 'the Dutch Protocol' which involved the use of puberty blockers from early puberty. In 2011, the UK trialled the use of puberty blockers in the 'early intervention study.'

22. Preliminary results from the early intervention study in 2015-2016 did not demonstrate benefit. The results of the study were not formally published until 2020, at which time it showed there was a lack of any positive measurable outcomes. Despite this, from 2014 puberty blockers moved from a research-only protocol to being available in routine clinical practice and were given to a broader group of patients who would not have met the inclusion criteria of the original protocol.

23. The adoption of a treatment with uncertain benefits without further scrutiny is a significant departure from established practice. This, in combination with the long delay in publication of the results of the study, has had significant consequences in terms of patient expectations of intended benefits and demand for treatment.

24. A planned update of the service specification by NHS England in 2019, examined the published evidence on medical interventions in this area and found it to be weak. In the absence of a clear evidence base on how best to support the growing numbers of gender-questioning children and young people seeking help from the NHS this Independent Review was commissioned by NHS England in autumn 2020.

Interim report

25. In 2022, the Review published an interim report, which provided some initial advice. It set out the importance of evidence-based service development and highlighted major gaps and weaknesses in the research base underpinning the clinical management of children and young people with gender incongruence and gender dysphoria, including the appropriate approaches to assessment and treatment. Critically, the interim report highlighted that little is known about the medium- and longer-term outcomes for children and young people receiving NHS support and/or treatment.

26. This lack of evidence placed limitations on the advice that could be given by the Review. An independent research programme was commissioned with the aim of providing the Review with the best available collation of published evidence, as well as qualitative and quantitative research to fill knowledge gaps.

27. The research programme, led by the University of York, comprised appraisal of the published evidence and guidelines, an international survey and quantitative and qualitative research. A Clinical Expert Group (CEG) was established by the Review to help interpret the findings.

28. This final report provides full details of the research approach and methodology used by the research team and a synthesis of the findings alongside interpretation of what they mean for the Review. The peer reviewed systematic reviews have been published alongside this report.

29. In addition to formal research, an extensive programme of engagement has informed the Review. A mixed-methods approach was taken that prioritised input from people with relevant lived experience and organisations working with LGBTQ+ youth or children and young people generally, and clinicians and other professionals with responsibility for providing care and support to children and young people within specialist gender services and beyond.

Understanding the patient cohort

30. The Review explored the reasons for the increase in referrals and why this increase has disproportionately been seen in birth registered females presenting in adolescence, and the implications of this for the service.

31. This is a different cohort from that looked at by earlier studies. Among referrals there is a greater complexity of presentation with high levels of neurodiversity and/or co-occurring mental health issues and a higher prevalence than in the general population of adverse childhood experiences and looked after children. The increase in referrals and change in case-mix is also being seen internationally.

32. Understanding who is accessing services informs an appropriate clinical approach. Therefore, to gain a complete understanding, the Review examined what is known about the nature and causes of gender incongruence and dysphoria. This goes to the heart of some of the core controversies in this area.

33. A failure to consider or debate the underlying reasons for the change in the patient population has led to people taking different positions about how to respond to the children and young people at the centre of the debate, without reasoned discussion about what has led to their gender experience and distress.

34. There is broad agreement that gender incongruence, like many other human characteristics, arises from a combination of biological, psychological, social and cultural factors.

35. A common explanation put forward is that the increase in presentation is because of greater acceptance. While it certainly seems to be the case that there is much greater acceptance of trans identities, particularly among younger generations, which may account for some of the increase in numbers, the exponential change in referrals over a particularly short five-year timeframe is very much faster than would be expected for normal evolution of acceptance of a minority group. This also does not adequately explain the switch from birth-registered males to birth-registered females, which is unlike trans presentations in any prior historical period.

36. There are different issues involved in considering gender care for children and young people than for adults. Children and young people are on a developmental trajectory that continues to their mid-20s and this needs to be considered when thinking about the

determinants of gender incongruence. An understanding of brain development and the usual tasks of adolescence is essential in understanding how development of gender identity relates to the other aspects of adolescent development.

37. This group of young people should also be considered in the context of a wider group of adolescents with complex presentations seeking help from the NHS. There has been a substantial increase in rates of mental health problems in children and adolescents across the UK over the past decade, with increased anxiety and depression being most evident in teenage girls and a rise in young people presenting with other bodily manifestations of distress; for example, eating disorders, tics and body dysmorphic disorder.

38. Research suggests gender expression is likely determined by a variable mix of factors such as biological predisposition, early childhood experiences, sexuality and expectations of puberty. For some mental health difficulties are hard to disentangle. The impact of a variety of contemporary societal influences and stressors (including online experience) remains unclear. Peer influence is also very powerful during adolescence as are different generational perspectives.

39. Pragmatically the above explanations for the observed changes in the population are all likely to be true to a greater or lesser extent, but for any individual a different mix of factors will apply.

40. This is a heterogenous group, with broad ranging presentations often including complex needs that extend beyond gender-related distress and this needs to be reflected in the services offered to them by the NHS.

41. Too often this cohort are considered a homogenous group for whom there is a single driving cause and an optimum treatment approach, but this is an over-simplification of the

situation. Being gender-questioning or having a trans identity means different things to different people. Among those being referred to children and young people's gender services, some may benefit from medical intervention and some may not. The clinical approach must reflect this.

42. Working through this multi-layered developmental process takes time, and the role of the clinical team is to help the young person address some of these issues so that they can better understand their gender identity and evaluate the options available to them.

Clinical approach and management

43. Clinicians have a range of viewpoints on the care and treatment of gender-questioning children and young people, with many left confused as to what the best approach might be. There are mixed views on what young people want and need; for example, young people have told us they need space and time to explore, but also that questioning feels intrusive. Some parents feel less questioning is needed, whilst others think the process is not thorough enough.

44. The Review sought to better understand the different clinical approaches and management, including through a standardised procedure for appraising international clinical guidelines (carried out by the research team at the University of York).

45. The findings raise questions about the quality of currently available guidelines. Most guidelines have not followed the international standards for guideline development, and because of this the research team could only recommend two guidelines for practice - the Finnish guideline published in 2020 and the Swedish guideline published in 2022.

46. However, even these guidelines lack clear recommendations regarding certain aspects of practice and would be of benefit if they provided more detailed guidance on how to implement recommendations.

47. The World Professional Association of Transgender Healthcare (WPATH) has been highly influential in directing international practice, although its guidelines were found by the University of York appraisal process to lack developmental rigour.

48. Early versions of two international guidelines - the Endocrine Society 2009 and WPATH 7 - influenced nearly all the other guidelines, except for the recent Nordic guidelines.

49. Given the lack of evidence-based guidelines, it is imperative that staff working within NHS gender services are cognisant of the limitations in relation to the evidence base and fully understand the knowns and the unknowns.

Assessment

50. The interim report advised that a developmentally informed assessment framework is needed to guard against inconsistencies and gaps in the assessment process, with clear responsibility and guidance for the different components of the process at primary, secondary and tertiary level.

51. Despite the agreement within the international guidelines on the need for a multi-disciplinary team, and some commonalities between them in the areas explored during the assessment process, the most striking problem is the lack of any consensus on the purpose of the assessment process.

52. In response to these findings, the Review asked its CEG to develop a consensus on the purpose of and approach to assessment.

53. Cognisant of the inconsistency in the published research and the complexity of presentations, the CEG worked to develop a holistic needs assessment framework. Its purpose is to derive a multi-level formulation leading to an individual care plan that supports the development of the child/young person's broader wellbeing and functioning. This is consistent with approaches for adolescents with other complex multi-faceted presentations.

54. When conducting an assessment, it will be important that clinicians are mindful that presentations, pathways and outcomes for this cohort are very individual, and the focus needs to be on helping each person to find the best pathway for them. Assessments should be respectful of the individual's experience and be developmentally informed.

Recommendation 1:

Given the complexity of this population, these services must operate to the same standards as other services seeing children and young people with complex presentations and/or additional risk factors. There should be a nominated medical practitioner (paediatrician/child psychiatrist) who takes overall clinical responsibility for patient safety within the service.

Recommendation 2:

Clinicians should apply the assessment framework developed by the Review's Clinical Expert Group, to ensure children/young people referred to NHS gender services receive a holistic assessment of their needs to inform an individualised care plan. This should include screening for neurodevelopmental conditions, including autism spectrum disorder, and a mental health assessment. The framework should be kept under review and evolve to reflect emerging evidence.

Diagnosis

55. The Review has heard mixed views about how young people perceive the value of a diagnosis of gender dysphoria. Many young people do not see themselves as having a medical condition and some may feel it undermines their autonomy and right to self-determination. Others see diagnosis as validating, and important when looking to access hormone treatment.

56. Some service users and advocates view an extensive exploration of other conditions and diagnoses as an attempt to find 'any other reason' for the person's distress other than them being trans.

57. There are several reasons why listing all relevant formal diagnoses is important for this group of children and young people:

- To provide the best evidence-based care, it is important that the clinician considers all possible (sometimes multiple) diagnoses that may be hindering the young person's wellbeing and ability to thrive.
- The clinician carries responsibility for the assessment, subsequent treatment recommendations and any harm that might be caused to a patient under their care. They need to define as clearly and reproducibly as they can exactly what condition they are treating to be accountable for their decisions on the options offered to the patient. If they are offering potentially irreversible medical treatments to a patient, it is important to specify whether the patient meets formal diagnostic criteria for gender dysphoria or any other conditions.
- Finally, the Review's commissioned systematic review demonstrated that other diagnoses within the group were not consistently documented, and in order to better understand and support these young people it is essential that all diagnoses are systematically recorded for clinical and research purposes.

58. Although a diagnosis of gender dysphoria has been seen as necessary for initiating medical treatment, it is not reliably predictive of whether that young person will have longstanding gender incongruence in the future, or whether medical intervention will be the best option for them.

Understanding how the gender-related distress has evolved in a particular individual, what other factors may be contributing, and the individual's needs and preferences for treatment are equally important.

59. It is also important to ensure that there is a focus on functioning, general well-being and resilience, to ensure the child/young person is able to make considered decisions about their future pathway.

Individualised care plan

60. Historically, the model of care for children and young people presenting with gender incongruence or distress was entirely based on a psychosocial model, with medical interventions being introduced more recently. Most clinical teams would still see psychosocial interventions as the starting point in a care pathway.

61. The controversy surrounding the use of medical treatments has taken focus away from what an individual's care and treatment plan is intended to achieve, both for individual children and young people and for the overall population.

62. The Review has kept at its heart the concern that clinicians are dealing with a group of children and young people who frequently, albeit not always, will be in a state of considerable distress by the time they present to the NHS, and will often have multiple unmet needs.

63. There should be a tiered approach to any intervention package which:

- addresses urgent risk;
- reduces distress and associated mental health issues and psychosocial stressors, so that the young person is able to function and make complex decisions;
- co-develops a plan for addressing the gender issues, which may involve any combination of social, psychological and physical interventions.

64. There should be a distinction for the approach taken to pre- and post-pubertal children when considering the most appropriate interventions. This is of particular importance in relation to social transition, which may not be thought of as an intervention or treatment because it is something that generally happens at home, online or in school and not within health services..

65. The central aim is to help young people to thrive and achieve their life goals. The immediate goal of the care and treatment plan must be to address distress, if this is part of the child/young person's presentation, and any barriers to participation in everyday life (for example, school community or social activities).

66. For the majority of young people, a medical pathway may not be the best way to achieve this. For those young people for whom a medical pathway is clinically indicated, it is not enough to provide this without also addressing wider mental health and/or psychosocially challenging problems such as family breakdown, barriers to participation in school life or social activities, bullying and minority stress.

Psychological interventions

67. The systematic review of psychosocial interventions found that the low quality of the studies, the poor reporting of the intervention details, and the wide variation in the types of interventions investigated, meant it was not possible to determine how effective different interventions were for children and young people experiencing gender distress.

68. Despite this, we know that many psychological therapies have a good evidence base for the treatment in the general population of conditions that are common in this group, such as depression and anxiety.

This is why it is so important to understand the full range of needs and ensure that these young people have access to the same helpful evidence-based interventions as others.

69. In addition to treating co-existing conditions, the focus on the use of puberty blockers for managing gender-related distress has overshadowed the possibility that other evidence-based treatments may be more effective. The intent of psychosocial intervention is not to change the person's perception of who they are, but to work with them to explore their concerns and experiences and help alleviate their distress regardless of whether or not the young person subsequently proceeds on a medical pathway.

70. The role of therapeutic approaches needs to be understood and data and information must be collected on the applicability of approaches for gender-related distress and any co-occurring conditions. This will start to bring understanding the efficacy of treatments in line with those routinely used for other children and young people in distress

Recommendation 3:

Standard evidence based psychological and psychopharmacological treatment approaches should be used to support the management of the associated distress and cooccurring conditions. This should include support for parents/carers and siblings as appropriate.

Social transition

71. There is no single definition of social transition, but it is broadly understood to refer to social changes to live as a different gender such as altering hair or clothing, name change, and/or use of different pronouns.

72. There is a spectrum from young people who make relatively limited gender non-conforming changes in appearance to those who may have fully socially transitioned from an early age and may be living in stealth.

73. One key difference between children and adolescents is that parental attitudes and beliefs will have an impact on whether the child socially transitions. For adolescents, exploration is a normal process, and rigid binary gender stereotypes can be unhelpful.

74. There are different views on the benefits versus the harms of early social transition. Some consider that it may improve mental health for children experiencing gender-related distress, while others consider that it makes it more likely that a child's gender dysphoria, which might have resolved at puberty, has an altered trajectory potentially, culminating in life-long medical intervention.

75. In the UK and internationally, it is now the norm for many children and young people to present to gender clinics having undergone full or partial social transition.

76. The systematic review showed no clear evidence that social transition in childhood has any positive or negative mental health outcomes, and relatively weak evidence for any effect in adolescence. However, those who had socially transitioned at an earlier age and/or prior to being seen in clinic were more likely to proceed to a medical pathway.

77. Although it is not possible to know from these studies whether earlier social transition was causative in this outcome, lessons from studies of children with differences in sexual development (DSD) show that a complex interplay between prenatal androgen levels, external genitalia, sex of rearing and socio-cultural environment all play a part in eventual gender identity.

78. Therefore, sex of rearing seems to have some influence on eventual gender outcome, and it is possible that social transition in childhood may change the trajectory of gender identity development for children with early gender incongruence.

79. The clinician should help families to recognise normal developmental variation in gender role behaviour and expression. Avoiding premature decisions and considering partial rather than full transitioning can be a way of ensuring flexibility and keeping options open until the developmental trajectory becomes clearer.

Recommendation 4:

When families/carers are making decisions about social transition of pre-pubertal children, services should ensure that they can be seen as early as possible by a clinical professional with relevant experience.

Medical pathways

80. The original rationale for use of puberty blockers was that this would buy ‘time to think’ by delaying onset of puberty and also improve the ability to ‘pass’ in later life. Subsequently it was suggested that they may also improve body image and psychological wellbeing.

81. The systematic review undertaken by the University of York found multiple studies demonstrating that puberty blockers exert their intended effect in suppressing puberty, and also that bone density is compromised during puberty suppression.

82. However, no changes in gender dysphoria or body satisfaction were demonstrated. There was insufficient/inconsistent evidence about the effects of puberty suppression on psychological or psychosocial wellbeing, cognitive development, cardio-metabolic risk or fertility.

83. Moreover, given that the vast majority of young people started on puberty blockers proceed from puberty blockers to masculinising/feminising hormones, there is no evidence that puberty blockers buy time to think, and some concern that they may change the trajectory of psychosexual and gender identity development.

84. The Review’s letter to NHS England (July 2023) advised that because puberty blockers only have clearly defined benefits in quite narrow circumstances, and because of the potential risks to neurocognitive development, psychosexual development and longer-term bone health, they should only be offered under a research protocol. This has been taken forward by NHS England and National Institute for Health and Care Research (NIHR).

85. The University of York also carried out a systematic review of outcomes of masculinising/feminising hormones. Overall, the authors concluded that “There is a lack of high-quality research assessing the outcomes of hormone interventions in adolescents with gender dysphoria/incongruence, and few studies that undertake long-term follow-up. No conclusions can be drawn about the effect on gender dysphoria, body satisfaction, psychosocial health, cognitive development, or fertility. Uncertainty remains about the outcomes for height/growth, cardiometabolic and bone health. There is suggestive evidence from mainly pre-post studies that hormone treatment may improve psychological health, although robust research with long-term follow-up is needed”.

86. It has been suggested that hormone treatment reduces the elevated risk of death by suicide in this population, but the evidence found did not support this conclusion.

87. The percentage of people treated with hormones who subsequently detransition remains unknown due to the lack of long-term follow-up studies, although there is suggestion that numbers are increasing.

88. A problem, that has become increasingly apparent as the Review has progressed is that research on psychosocial interventions and longer-term outcomes for those who do not access endocrine pathways is as weak as research on endocrine treatment. This leaves a major gap in our knowledge about how best to support and help the growing population of young people with gender-related distress in the context of complex presentations.

Long-term outcomes

89. One of the major difficulties with planning and evaluating gender identity services for children and young people is the very limited evidence on the longer-term outcomes for people who have accessed GIDS.

90. When clinicians talk to patients about what interventions may be best for them, they usually refer to the longer-term benefits and risks of different options, based on outcome data from other people who have been through a similar care pathway. This information is not currently available for interventions in children and young people with gender incongruence or gender dysphoria, so young people and their families have to make decisions without an adequate picture of the potential impacts and outcomes.

91. A strand of research commissioned by the Review was a quantitative data linkage study. The aim of this study was to fill some of the gaps in follow-up data for the approximately 9,000 young people who have been through GIDS. This would help to develop a stronger evidence base about the types of support and interventions received and longer-term outcomes. This required cooperation of GIDS and the NHS adult gender services.

92. In January 2024, the Review received a letter from NHS England stating that, despite efforts to encourage the participation of the NHS gender clinics, the necessary cooperation had not been forthcoming.

93. This quantitative study represents a unique opportunity to provide further evidence to assist young people, their parents/carers, and the clinicians working with them to make informed decisions about the right pathway for them.

94. Although retrospective research is never as robust as prospective research, it would take a minimum of 10-15 years to extract the necessary follow-up data

95. NHS England has stated a commitment to realising the ambitions of the data linkage study beyond the life of the Review and the Review has detailed the University of York's experience in trying to move the study forward.

Recommendation 5:

NHS England, working with DHSC should direct the gender clinics to participate in the data linkage study within the lifetime of the current statutory instrument. NHS England's Research Oversight Board should take responsibility for interpreting the findings of the research.

Challenges in clinical decision making

96. One of the main areas of contention in the provision of gender services for children and young people is the use of hormone treatments for gender dysphoria. In developing its vision for the new service, the Review has considered the issue of consent, the challenges of which were starkly brought to light by the Bell vs Tavistock case.

97. The Judicial Review's responsibilities could not be extended beyond the issue of capacity and competence to consent. However, consent is more than just capacity and competence. It requires clinicians to ensure that the proposed intervention is clinically indicated as they have a duty to offer appropriate treatment. It also requires the patient to be provided with appropriate and sufficient information about the risks, benefits and expected outcomes of the treatment.

98. Assessing whether a hormone pathway is indicated is challenging. A formal diagnosis of gender dysphoria is frequently cited as a prerequisite for accessing hormone treatment. However, it is not reliably predictive of whether that young person will have longstanding gender incongruence in the future, or whether medical intervention will be the best option for them.

99. In addition, the poor evidence base makes it difficult to provide adequate information on which a young person and their family can make an informed choice.

100. A trusted source of information is needed on all aspects of medical care, but in particular it is important to defuse/manage expectations that have been built up by claims about the efficacy of puberty blockers.

101. Although young people often express a sense of urgency in their wish to access medical treatments, based on personal experience some young adults have suggested that taking time to explore options is preferable. The option to provide masculinising/feminising hormones from the age of 16 is available, but the Review would recommend an extremely cautious clinical approach and a strong clinical rationale for providing hormones before the age of 18. This would keep options open during this important developmental window, allowing time for management of any co-occurring conditions, building of resilience, and fertility preservation, if required.

102. The overarching conclusion from the evidence presented in this Review is that the puberty blocker research protocol, which is already in development, needs to be one part of a much broader research programme that seeks to build the evidence on all potential interventions and determine the most effective way of supporting these children and young people.

Recommendation 6:

The evidence base underpinning medical and non-medical interventions in this clinical area must be improved. Following our earlier recommendation to establish a puberty blocker trial, which has been taken forward by NHS England, we further recommend a full programme of research be established. This should look at the characteristics, interventions and outcomes of every young person presenting to the NHS gender services.

- The puberty blocker trial should be part of a programme of research which also evaluates outcomes of psychosocial interventions and masculinising/feminising hormones.
- Consent should routinely be sought for all children and young people for enrolment in a research study with follow-up into adulthood.

Recommendation 7:

Long-standing gender incongruence should be an essential pre-requisite for medical treatment but is only one aspect of deciding whether a medical pathway is the right option for an individual.

Recommendation 8:

NHS England should review the policy on masculinising/feminising hormones. The option to provide masculinising/feminising hormones from age 16 is available, but the Review would recommend extreme caution. There should be a clear clinical rationale for providing hormones at this stage rather than waiting until an individual reaches 18.

Recommendation 9:

Every case considered for medical treatment should be discussed at a national Multi Disciplinary Team (MDT) hosted by the National Provider Collaborative replacing the Multi Professional Review Group (MPRG).

Recommendation 10:

All children should be offered fertility counselling and preservation prior to going onto a medical pathway.

Service model

103. Since receiving the Review's interim report, NHS England has taken steps to increase capacity, establishing two new services led by specialist children's hospitals. This is the first step in commissioning a network of regional services across the country.

104. The Review had hoped to take learning from these interim services. Instead, it has gained insight from the considerable challenges faced in their establishment within a highly emotive and politicised arena. This, coupled with concerns about the weakness of the evidence base and lack of professional guidance, has impacted on the ability of the new services to recruit the appropriate multi-disciplinary workforce.

105. The Review welcomes the first steps NHS England has taken to establish a regional model of care, but maintains that a distributed model of care is needed to meet current demand and provide a more appropriate holistic, localised and timely approach to caring for children and young people needing support.

106. Services should not be located solely in tertiary centres and a much broader based service model is needed with a flexible workforce working across a regional footprint in partnership with local services. Models of care that deliver a clinical service over multiple sites have a potential to maintain geographical access to services whilst improving quality of care and optimising the use of the workforce.

107. Clinical Network and Multi-Site models provide better continuity of care, closer to home, and the ability for children and young people to move more easily between components of the service at their own pace. They also allow the workforce to be shared across the network without destabilising local services and address some of the recruitment challenges experienced by both GIDS and the new providers.

108. Establishment of a National Provider Collaborative should ensure the regional centres operate to shared standards and operating procedures, developing protocols for assessment and treatment. The Collaborative should have a role in overseeing ethics, training and professional development, data and audit, quality improvement and research requirements, as well as providing a forum for the discussion of complex cases. The aim is that no matter where in the country the child/young person is seen, they will receive the same high standards of evidence-based care.

109. In addition to the single overarching National Provider Network, each Regional Centre should work with local services within their region as a formalised Operational Delivery Network (ODN). These formalised networks and increased number of providers should allow care and risk to be actively managed at different levels according to need, reducing waiting times for specialist care.

110. This model will also support integration between different children's services and facilitate early access to local services along flexible pathways that better respond to individual needs. Overall, this model should improve the experience of care for children and young people questioning their gender identity.

111. The new regional services should establish the National Provider Collaborative without delay and quickly develop their networks, utilising existing local relationships in the first instance to accelerate service provision. This approach would act as a stepping stone to ultimately skilling up all secondary level services to provide assessment and psychological support for these children and young people, with medical intervention remaining at tertiary level.

Recommendation 11:

NHS England and service providers should work to develop the regional multi-site service networks as soon as possible. This could be based on a lead provider model, where NHS England delegates commissioning responsibility to the regional services to subcontract locally to providers in their region.

Recommendation 12:

The National Provider Collaborative should be established without delay.

Workforce

112. The Review recognises that workforce shortfalls are one of the most challenging aspects of delivering this service.

113. Within the existing model of care, the vast majority of gender-questioning children and young people who seek help from the NHS have been referred to a highly specialised workforce working solely in gender care. A smaller number are successfully supported in local Child and Adolescent Mental Health Services (CAMHS) or paediatric services. This approach has had the unintended consequence of deskilling the rest of the workforce and generating unmanageably long waiting lists.

114. Given the increasing numbers of gender diverse and gender-questioning young people, it is important that all clinical staff can support them in a range of settings across the NHS. It is equally important that professionals who are involved in their ongoing care have broad-based skills in adolescent physical and mental health so that young people are treated holistically and not solely on the basis of their gender presentation.

115. In line with international practice, the Regional Centres will need a broad multi-professional workforce. The skills of those working within the service need to reflect the broad and varied needs of this heterogeneous group and the service needs to include the appropriate skill mix to support both individuals for whom medical intervention is clinically indicated and those for whom it is not.

116. This workforce should include psychiatrists, paediatricians, psychologists, psychotherapists, clinical nurse specialists, social workers, specialists in autism and other neurodiverse presentations, speech and language therapists, occupational health specialists and, for the subgroup for whom medical treatment may be considered appropriate, endocrinologists and fertility specialists. Social care should also be embedded and there should be expertise in safeguarding and support for looked-after children and children who have experienced trauma.

117. When outlining the future service model, to increase the available workforce without depleting other service areas, the Review has described a flexible, multi-site staff group working under joint contracts that support flexibility.

120. Staff should maintain a broad clinical perspective by working across related non-gender services within the tertiary centre and between tertiary and secondary centres in order to

embed the care of children and young people with gender-related distress within a broader child and adolescent health context. This has the additional benefits of not destabilising existing services, supporting continuity and connection and democratising knowledge.

118. This is a highly challenging, complex and emotive area in which to work. Those working with this group should have professional supervision and support to provide a place for exploration of their own approach and the range of emotions they may feel. There should be formal processes for raising concerns that sit outside immediate supervision. This should also support consistency in approach and improve retention of the workforce.

119. The National Provider Collaborative should also explore running structured forums where all staff, clinical and non-clinical, come together regularly to discuss the emotional and social aspects of working within the service - supporting staff by giving them a safe place to raise issues.

Recommendation 13:

To increase the available workforce and maintain a broader clinical lens, joint contracts should be utilised to support staff to work across the network and across different services.

Recommendation 14:

NHS England, through its Workforce Training and Education function, must ensure requirements for this service area are built into overall workforce planning for adolescent services.

Training and education

120. There is a lack of confidence among the wider workforce to engage with gender-questioning children and adolescents. Many clinicians working with children and young people have transferable skills and expertise, but there is a need for all clinicians across the NHS to receive better training on how to work sensitively and effectively with trans, non-binary and gender-questioning young people.

121. Clinicians working with children and young people and families/carers will need to have the skills to competently engage families/carers from a broad range of backgrounds, and be aware and informed of the range of priorities that young people and their parents/carers can present to services.

122. Young people told the Review that they want clinicians to listen to them, respect how they feel and support them to work through their feelings and options. They expect clinicians to display compassion, understanding and validation, and to treat them as an individual.

123. Training programmes should follow practice in other service areas (for example, safeguarding), where the level of competency and training needs depend on the staff group and clinical area.

124. A consortium of relevant Medical Royal Colleges and professional bodies should develop a shared skills and competency framework relevant to all clinical and social care staff working in this area at different levels within the system. This should include broader skills in adolescent care, as well as the more specific aspects relevant to gender care.

125. Individual professional organisations should determine which of the transferable skills and competencies are already embedded in the training curricula of their specific staff groups and where the gaps are.

126. The consortium should then develop a curriculum to cover topics that are deemed to be missing from existing training programmes and curricula, and necessary for top-up training/ continuing professional development (CPD)/ credentialing for individuals working within this area.

Recommendation 15:

NHS England should commission a lead organisation to establish a consortium of relevant professional bodies to:

- develop a competency framework
- identify gaps in professional training programmes
- develop a suite of training materials to supplement professional competencies, appropriate to their clinical field and level. This should include a module on the holistic assessment framework and approach to formulation and care planning.

Recommendation 16:

The National Provider Collaborative should coordinate development of evidence-based information and resources for young people, parents and carers. Consideration should be given as to whether this should be a centrally hosted NHS online resource.

Service improvement

127. Central to any service improvement is the systematic and consistent collection of data on the outcomes of treatment.

128. Throughout the course of the Review, it has been evident that there has been a failure to reliably collect even the most basic data and information in a consistent and comprehensive manner; data have often not been shared or have been unavailable.

129. It will be critical that the new services form a learning environment. There should be a process of continuous service improvement and clinical reflection, with consideration of how services should evolve as the evidence base grows and care pathways are evaluated.

130. There remains the need for the collection of an agreed core dataset to inform service improvement and research, based on similar approaches already established in other specialties; for example, in paediatric critical care. This will be critical to informing current and future clinical practice and care for this population.

Recommendation 17:

A core national data set should be defined for both specialist and designated local specialist services.

Recommendation 18:

The national infrastructure should be put in place to manage data collection and audit and this should be used to drive continuous quality improvement and research in an active learning environment.

Clinical research capacity

131. The gaps in the evidence base regarding all aspects of gender care for children and young people have been highlighted, from epidemiology through to assessment, diagnosis and intervention.

132. It is troubling that so little is known about this cohort and their outcomes. An ongoing programme of work is required if the new case-mix of children and young people and their needs are to be fully understood, as well as the short- medium- and longer-term impacts of all clinical interventions.

133. Given the uncertainties regarding the long-term outcomes for medical and non-medical interventions, and the broader knowledge gaps in this area, research capacity is needed to:

- provide ongoing appraisal of new research and rapid translation into clinical practice;
- continue to identify areas of practice where further research is needed;
- fast-track the development of an ambitious research portfolio that will inform policy on assessment, support and clinical care of children with gender dysphoria, from presentation through to appropriate social, psychological and medical management.

134. The appropriate research questions and protocols will need to be developed with input from a panel of academics, clinicians, service users and ethicists.

135. To build on the work undertaken by the University of York and maintain an up-to-date understanding of this complex and fast-moving research area, a living systematic review (where the systematic review could be continually updated to reflect new evidence as it becomes available to inform the clinical approach of the new services, ensuring it remains up-to-date and dynamic) should be established.

136. Without an established research strategy and infrastructure, the outstanding questions relating to interventions to support this population will remain unanswered, and the evidence gaps will continue to be filled with opinion and conjecture.

137. Better quality evidence is critical if the NHS is to provide reliable, transparent information and advice to support children, young people, their parents and carers in making potentially life-changing decisions.

Recommendation 19:

NHS England and the National Institute for Health and Care Research (NIHR) should ensure that the academic and administrative infrastructure to support a programme of clinically-based research is embedded into the regional centres.

Recommendation 20:

A unified research strategy should be established across the Regional Centres, co-ordinated through the National Provider Collaborative and the Research Oversight Group, so that all data collected are utilised to best effect and for sufficient numbers of individuals to be meaningful.

Recommendation 21:

To ensure that services are operating to the highest standards of evidence the National Institute for Health and Care Research (NIHR) should commission a living systematic review to inform the evolving clinical approach.

Pathways

138. Clear criteria are needed for referral to services along the pathway from primary to tertiary care so that gender-questioning children and young people who seek help from the NHS have equitable access to services.

139. When the Review commenced, access to the specialist GIDS service was unusual in that the service accepted referrals directly from primary care (a GP) and from non-healthcare professionals including teachers and youth workers.

140. NHS England has since consulted on a proposal for all referrals to come via secondary care and the Review supports this approach.

141. This report sets out the different roles and responsibilities within the Review's proposed service delivery model; from primary through to tertiary care and discharge and how the network should ensure that children and young people are appropriately engaged within the health system.

Pathways within the service

142. Discussions with clinicians highlighted the importance of differentiating the subgroups within the referred population who may be at risk and/or need more urgent support, assessment or intervention; there may also be subgroups for whom early advice to parents or school staff may be a more appropriate first step.

143. Children and young people should be able to move flexibly between different elements of the service in a step-up or step-down model, allowing them and their parents/carers to make decisions at their own pace without requiring rereferral into the system.

144. The current evidence base suggests that children who present with gender incongruence at a young age are most likely to desist before puberty, although for a small number the incongruence will persist. Parents and families need support and advice about how best to support their children in a balanced and non-judgemental way. Helping parents and families to ensure that options remain open and flexible for the child, whilst ensuring that the child is able to function well in school and socially is an important aspect of care provision and there should be no lower age limit for accessing such help and support.

Recommendation 22:

Within each regional network, a separate pathway should be established for pre-pubertal children and their families. Providers should ensure that pre-pubertal children and their parents/carers are prioritised for early discussion with a professional with relevant experience.

Transfer to adult gender services

145. Currently, significant numbers of young people are being transferred from GIDS to adult services. Some will have been under the care of GIDS, however another group will still have been waiting for their first GIDS appointment at the time they turned 17, and their wait will now count in their wait for adult services. This is increasing waiting lists for adult services and disadvantaging older adults seeking NHS support.

146. This represents a significant risk of discontinuity in clinical care and loss to follow-up. It also means that data on outcomes, which are essential to improve the knowledge base, are lost.

147. A follow-through service would benefit both this younger population and the adult population. This will have the added benefit in the longer-term of increasing the capacity of adult provision across the country as more gender services are established.

148. This would be consistent with the other service areas supporting young people that are selectively moving to a '0-25 years' service to improve continuity of care.

Recommendation 23:

NHS England should establish follow-through services for 17-25-year-olds at each of the Regional Centres, either by extending the range of the regional children and young people's service or through linked services, to ensure continuity of care and support at a potentially vulnerable stage in their journey. This will also allow clinical, and research follow up data to be collected.

149. The Review requested data on the demographics of referrals into NHS adult gender clinics, which demonstrated that the majority of referrals were birth-registered females under the age of 25.

150. While provision within the adult Gender Dysphoria Clinics (GDCs) is outside the scope of this Review, a number of current and past GDC staff have contacted the Review in confidence with their concerns.

151. The Review will set out the main points of concern to NHS England separately. However, the clinicians highlighted the changing adult demographic and same complexity of presentation as seen in gender services for children and young people.

152. As the services for children and young people develop, a strategic approach will be needed to ensure that adult service provision takes account of different population needs and emerging evidence.

Recommendation 24:

Given that the changing demographic presenting to children and young people's services is reflected in a change of presentations to adult services, NHS England should consider bringing forward any planned update of the adult service specification and review the model of care and operating procedures.

Detransition

153. NHS gender services should support all those presenting with gender incongruence and dysphoria, whether that be to transition, detransition or retransition. Those who detransition should be carefully monitored in a supportive setting, particularly when coming off hormone treatments.

154. The Review has heard that people experiencing regret may be hesitant to engage with the gender services that supported them through their initial transition. Consideration should be given to whether existing service specifications need to be adapted to specifically provide detransition pathways or whether this should be a separately commissioned service. This should be in consultation with people who have been through detransition.

Recommendation 25:

NHS England should ensure there is provision for people considering detransition, recognising that they may not wish to reengage with the services whose care they were previously under.

Private provision

155. The Review has been told that a number of young people have sought private provision whilst on the waiting list for GIDS, and about families trying to balance the risks of obtaining unregulated and potentially dangerous hormone supplies over the internet with the ongoing trauma of prolonged waits for assessment. Feedback from the lived experience focus groups presents this as “a forced choice (because the NHS provision is not accessible

in a timely way) rather than a preference.” The ongoing cost of this treatment and the subsequent monitoring can be prohibitive for some.

156. GPs have expressed concern about being pressurised to prescribe hormones after these have been initiated by private providers and that there is a lack of clarity around their responsibilities in relation to monitoring.

157. The Review understands and shares the concerns about the use of unregulated medications and of providers that are not regulated within the UK. Any clinician who ascertains that a young person is being given drugs from an unregulated source should make the young person and their family aware of the risks of such treatment.

158. In terms of shared care and prescribing responsibility, this should mirror other areas of practice. Specifically, no clinician should prescribe outside their competence, nor should GPs be expected to enter into a shared care arrangement with a private provider, particularly if that private provider is acting outside NHS guidance. Additionally, pharmacists are responsible for ensuring medications prescribed to patients are suitable.

159. However, there should be an arrangement to carry out relevant investigations to ensure a young person is not coming to harm (for example, monitoring bone density).

160. In the case of puberty blockers, NHS England has set out that these will only be available under a research protocol. On entering the trial, the young person will have a number of tests to establish their baseline levels for monitoring purposes (for example, in relation to bone density), as well as other initial assessments. If an individual were to take puberty blockers outside the study, their eligibility may be affected.

Recommendation 26:

The Department of Health and Social Care and NHS England should consider the implications of private healthcare on any future requests to the NHS for treatment, monitoring and/or involvement in research. This needs to be clearly communicated to patients and private providers.

Recommendation 28:

The NHS and the Department of Health and Social Care needs to review the process and circumstances of changing NHS numbers and find solutions to address the clinical and research implications.

Recommendation 27:

The Department of Health and Social Care should work with the General Pharmaceutical Council to define the dispensing responsibilities of pharmacists of private prescriptions and consider other statutory solutions that would prevent inappropriate overseas prescribing.

Implementation

163. The Review recognises that delivery of the aspirations set out in this report will require significant changes. The move to the proposed service model will require a phased approach and it may be several years before the full model is operational across the country. Pragmatic strategic and operational plans are required, that set out the steps that will be taken to realise the service transformation.

164. Governance needs to be put in place to oversee implementation of the required changes and provide system-wide leadership. This should be external to the Specialised Commissioning division and draw clinical leadership from professional bodies. Given the level of external interest in these services progress against the implementation plans should be reported.

165. While the Review has focused on children and young people with gender incongruence and gender-related distress, the NHS needs to be ambitious in its provision for all children and young people seeking NHS support.

NHS number

161. Currently, when a person requests to change their gender on their NHS record, NHS guidance requires that they are issued with a new NHS number. This has implications for safeguarding and clinical management of these children and young people and could affect longer-term health management (for example, the screening they are offered).

162. From a research perspective, the issuing of new NHS numbers makes it more difficult to identify the long-term outcomes for a patient population for whom the evidence base is currently weak.

166. NHS provision for children and young people across the board requires greater service and workforce development and sustained investment. Without this we are letting down future generations. NHS England should use this opportunity to integrate investment and development of gender services with the ambitions set out in the NHS Long Term Plan for broader provision, with consideration given to a complex adolescent pathway.

Recommendation 29:

NHS England should develop an implementation plan with clear milestones towards the future clinical and service model. This should have board level oversight and be developed collaboratively with those responsible for the health of children and young people more generally to support greater integration to meet the wide-ranging needs of complex adolescents.

Recommendation 30:

NHS England should establish robust and comprehensive contract management and audit processes and requirements around the collection of data for the provision of these services. These should be adhered to by the providers responsible for delivering these services for children and young people

Wider system learning

167. Clinical staff need support and guidance from their professional bodies to apply the evidence-based approaches described in this report. The consortium brought together to develop training resources should also be a vehicle for agreeing professional guidance for their respective clinical groups. This collaborative approach should include processes for listening to the community the service is built for.

Recommendation 31:

Professional bodies must come together to provide leadership and guidance on the clinical management of this population taking account of the findings of this report.

168. Innovation is important if medicine is to move forward, but there must be a proportionate level of monitoring, oversight and regulation that does not stifle progress, but prevents creep of unproven approaches into clinical practice. Innovation must draw from and contribute to the evidence base.

Recommendation 32:

Wider guidance applicable to all NHS services should be developed to support providers and commissioners to ensure that innovation is encouraged but that there is appropriate scrutiny and clinical governance to avoid incremental creep of practice in the absence of evidence.

Approach



1. Methodology

1.1 At the outset, the Review established the core principles that would underpin the approach taken.

- The welfare of the child or young person must remain paramount in all considerations. At the centre of the Review is a group of children and young people who are seeking support, and our responsibility is to devise a model of care that will safeguard their best interests and set each one of them on a pathway that helps them thrive as an individual.
- The Review has to be grounded in a thorough examination of the most robust existing evidence. To support this, we commissioned systematic reviews on a range of issues from epidemiology through to treatment approaches, and international models of current practice.
- The (formal) evidence would only provide part of the picture and we needed to hear from a range of people; crucially the children and young people at the centre of the review, but also their parents and carers, as well as young adults who have been through gender care in the UK and could give a longer-term perspective.
- We also needed input from a very wide range of professionals from different agencies who have relevant experience and could contribute to our understanding of the population and the evidence.
- Finally, we wanted to ensure that key findings were shared as quickly as possible, through publication of interim findings, blogs, and any communications with NHS England over the course of the Review.

1.2 In considering the questions set out in the terms of reference, this Review can only set out what is known and unknown and think about how the NHS can best respond safely, effectively and compassionately, leaving some issues for wider societal debate. However, in order to gain as broad an understanding as possible we drew on several sources of information, underpinned by basic scientific and clinical principles.

Understanding evidence

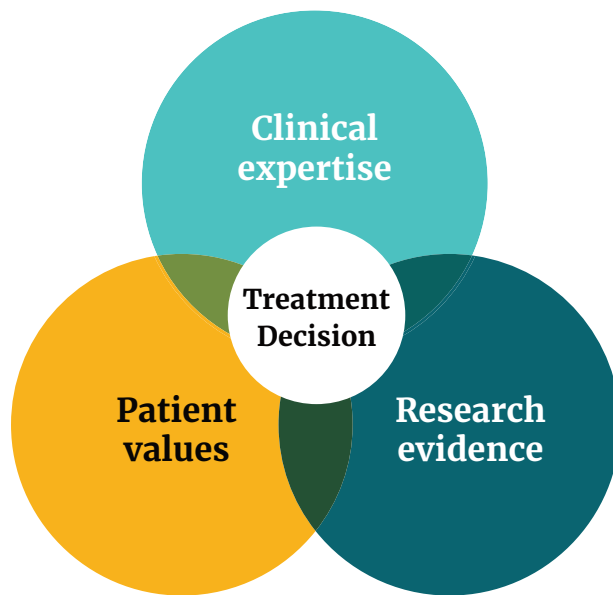
1.3 The Review's interim report in 2022 set out the importance of evidence-based service development and highlighted major gaps and weaknesses in the evidence base underpinning the clinical management of children and young people with gender incongruence and gender dysphoria, including for the appropriate approaches to assessment and treatment. In particular, it became apparent how little was known about the medium- and longer-term outcomes for children and young people receiving NHS support and/or treatment.

1.4 The quality of the evidence base for interventions for gender incongruence and gender dysphoria is a source of debate and contention. This makes it very difficult for young people and their families to know what information to trust and what to expect from the treatments offered.

1.5 A fundamental principle of clinical medicine is that treatments should be offered based on the best available evidence.

1.6 In evidence-based practice, three factors determine treatment decisions; research evidence, clinical expertise and patient values.

Figure 3: Components of evidence-based medicine



1.7 For example, if a doctor diagnoses a patient with depression and recommends a particular antidepressant medication, they should invariably explain that there is strong evidence that the drug is effective; for example, it has an 85% chance of improving the depression.

1.8 The doctor will also point out possible side effects; for example, it has a 5% chance of causing weight gain. If the patient already happens to be very distressed about being overweight, they may not feel that the potential benefits of the drug outweigh the risk that they may gain weight.

1.9 The doctor will then consider other options; for example, there may be a different drug that does not cause weight gain but increases risk of suicide. If the patient has made a recent suicide attempt that would not be an appropriate alternative to offer to this patient.

1.10 Without this evidence for benefits and harms, it is hard for the doctor to advise the patient, and for the patient to decide whether they want to try the proposed treatment.

Explanatory Box 1:

Principles of treatments studies

The following information is intended to provide some accessible explanations of the strengths and limitations of the evidence and treatment studies used to inform the Review's recommendations.

- The development of a new drug or treatment involves a number of steps to ensure that it is safe (there are minimal harms or side effects) and effective (there is a good chance the drug will produce the intended benefit). If another treatment already exists for the condition, an important step is to test whether the new treatment is better, and whether it is cost effective. This is best quantified by undertaking a randomised trial. Sometimes a drug may have severe side effects, but if the condition is life threatening, these side effects may be considered acceptable (for example, some chemotherapies for cancer).
- An important principle in treatment trials is equipoise. This means that the researchers genuinely do not know which treatment is better - the existing treatment or the new treatment. If they have very strong reasons to believe the new treatment is better, or indeed worse, they cannot ethically carry out a trial. Occasionally a trial may be stopped early if it is obvious that the new treatment is causing harm or is strongly beneficial.

Some types of treatment studies

- The 'gold standard' trial is a randomised controlled trial (RCT). In this type of trial there are at least two groups. One is given the new treatment and the other, the control group, is given a standard or alternative treatment, or perhaps no treatment. Patients are randomly allocated to the two groups, and it is important to make sure there are no important differences between the two groups.
- The term blind or blinded is used in RCTs. There are different levels of blinding: firstly, if researchers are doing the assessments, they should not know which group a patient has been allocated to. Secondly, the patient can be blinded so that they do not know if they are on the new treatment or the original treatment, or even on a placebo (dummy pills). Finally, the treating doctor (or team) should ideally be blind to the group allocation, so their treatment of the patients does not differ.
- Participants in a study must be told about blinding processes when they consent to be in the trial. It is not always possible for people to be blind to a treatment; for example, in a trial of acupuncture versus physiotherapy, patients will know which treatment they are receiving. In these situations, people interpreting the results of the study must take into account any possible placebo effect. This is when people believe that the treatment will produce a beneficial outcome and having this belief results in them feeling better.

There are hardly any RCTs in children and young people receiving endocrine treatment for gender incongruence/dysphoria, but the following are the most commonly reported types of studies:

- Two types of studies that are sometimes used to look at the effects of puberty blockers and masculinising/feminising hormones are cohort studies and cross-sectional studies, which are different ways of looking at outcomes in groups who did or didn't get a particular intervention. These are all called observational studies whereas RCTs are called experimental studies. This is because in cohort or cross-sectional studies the researcher did not allocate which patients receive an intervention. There may still be a comparison group, but participants will not have been randomly allocated to the two groups.
- The most common study for patients receiving puberty suppression is a pre-post study. This is where study participants are assessed before and after they receive an intervention. Because there is no comparison group of individuals who did not receive the treatment, and because one cannot rule out changes that would have occurred over time without treatment, it is not possible to draw strong conclusions from these studies.

Pitfalls of treatment trials

- A major problem in making sense of trial findings is bias. There are many ways in which results can be biased. For example, if 50% of the sample drops out, this would be referred to as a high attrition rate. It's possible that the people who remained in the study are those who responded well to the treatment, whereas those who dropped out did so because the treatment wasn't working for them or they had bad side effects. This could result in a positive bias in the study outcomes; in other words showing an effect when there isn't one. It could also fail to show the side effects that caused people to drop out.
- Another way of biasing results is if the patients in the treatment and control groups differ in some way; for example, one group has more people who are younger, or sicker. Researchers will assess the groups on several measures and compare them to see if they are similar at the start of the study (baseline assessment). Random allocation of people to the study groups and large numbers of participants help reduce the risk of differences between study groups.
- It is very important to get the inclusion and exclusion criteria of a study right (that is, which patients can and cannot be included). For example, a trial might report that a painkiller is highly effective, but if it turns out that only people with osteoarthritis in the knee were included it would mean that the results cannot be generalised to patients with headache. Although the drug may work very well for headache, it is not possible to be sure about this on the basis of the findings of this particular study.

- In any design where patients are not blinded and know they are getting a particular drug, or where they have chosen a specific treatment rather than being randomised to one, they may show improvement because of a placebo effect (that is, they believe that the treatment will produce a beneficial outcome).
- Sometimes there are confounding factors in a study, such as the patient getting another treatment at the same time as the trial treatment. Though randomisation and blinding minimise the risk of bias and confounding, this is not completely watertight.
- There must also be enough patients in a trial (the term 'sufficiently powered' is often used where there are) to be sure the results reflect the range of possible outcomes and do not give a 'positive' result by chance, a so-called Type 1 (or alpha) error. Study outcome measures are generally reported as the average for a group, but the range is usually also given and can be very wide. For example, if the average outcome for a group is 5 points out of a possible 10, a range of 2-9 would indicate much more varied outcomes across the group than a range of 4-6. Size influences whether the reported outcomes are statistically significant. In very small studies, for example one with only four patients put on a treatment and in which three got better and one got worse, it would not be possible to understand the full range of possible outcomes. Furthermore, the benefits for three individuals could have happened by chance. For a result to be statistically significant, it must be unlikely that the result could have happened by chance. This is why substantial numbers of participants are required and a key requirement of any trial is a pre-recruitment estimate of how many will be needed for the study to produce meaningful results.
- There are many other potential problems, some of which include:
 - unconscious bias in questionnaire design where the questions are written in a way that prompts a more favourable response;
 - using the wrong kind of analysis for the available data;
 - not following up for long enough to see the full benefits or harms of a treatment;
 - seeing an improvement because patients were improving spontaneously over time;
 - publication bias where, for example, only positive results are published.

Building on evidence

Figure 4: What has informed the Review?



1.11 The Review has sought to better understand the existing evidence, as well as fill some of the gaps through qualitative and quantitative research relevant to the Review's terms of reference (Appendix 1).

1.12 Following a national open procurement process, the University of York was commissioned to deliver an independent research programme. The aim was to provide the Review with the best available collation of published evidence relevant to epidemiology, clinical management, models of care and outcomes, and to understand the experiences and perspectives of service users, their families and clinicians.

1.13 The systematic reviews were commissioned to look at:

- i. How has the population of children presenting with gender dysphoria and/or gender-related distress changed over time?
- ii. What are the appropriate referral, assessment and treatment pathways for children with gender dysphoria and/or gender-related distress?
- iii. What are the short, medium and long-term outcomes for children with gender dysphoria and/or gender-related distress?

1.14 Additionally, an appraisal of an international guidelines and international survey were undertaken to supplement this information, looking at evidence application and clinical practice in other comparable healthcare systems.

1.15 Finally, the qualitative and quantitative studies were designed to try and fill some of the gaps in the existing literature.

1.16 The Review collated the findings from these studies and used them to determine the most appropriate clinical approach and models of care, assessment and treatment.

Table 1: Overview of academic research programme commissioned by the Review

RESEARCH TYPE	RESEARCH TITLE	REPORT IN-TEXT CITATION
SYSTEMIC REVIEWS	<u>Characteristics of children and adolescents referred to specialist gender services: a systematic review</u>	Taylor et al: Patient characteristics
	<u>Impact of social transition in relation to gender for children and adolescents: a systematic review</u>	Hall et al: Social transition
	<u>Psychosocial support interventions for children and adolescents experiencing gender dysphoria or incongruence: A systematic review</u>	Heathcote et al: Psychosocial support
	<u>Interventions to suppress puberty in adolescents experiencing gender dysphoria or incongruence: a systematic review</u>	Taylor et al: Puberty suppression
	<u>Masculinising and feminising hormone interventions for adolescents with gender dysphoria or incongruence: a systematic review</u>	Taylor et al: M/F hormones
	<u>Care pathways of children and adolescents referred to specialist gender services: a systematic review</u>	Taylor et al: Care pathways
INTERNATIONAL GUIDELINES	<u>Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of guideline quality (part 1)</u>	Taylor et al: Guidelines 1: Appraisal
	<u>Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of recommendations (part 2)</u>	Taylor et al: Guidelines 2: Synthesis
INTERNATIONAL SURVEY	<u>Gender services for children and adolescents across the EU-15+ countries: an online survey</u>	Hall et al: Clinic survey
SUMMARY REPORT	The epidemiology, care pathways, outcomes, and experiences of children and adolescents with gender dysphoria/incongruence : a series of linked systematic reviews and an international survey	Systematic review summary (Appendix 2)
QUALITATIVE STUDY	Qualitative Research Summary: Narrative accounts of gender questioning	Qualitative study summary (Appendix 3)
QUANTITATIVE STUDIES	Overview of Study Development: Assessment, Management and Outcomes for Children and Young People Referred to a National Gender Identity Development Service	Data linkage study (Appendix 4)
	Preliminary report: Epidemiology and Outcomes for Children and Young People with Gender Dysphoria: Retrospective Cohort Study Using Electronic Primary Care Records	CPRD study (Appendix 5)

Research governance

1.17 The original research studies were reviewed by the Health Research Authority's (HRA) Research Ethics Committee, to ensure the interests, safety, and wellbeing of participants were protected. Where the research was to involve access to pseudonymised patient datasets, approval was also sought from the HRA's Confidentiality Advisory Group. This assessment ensures the research complies with the Data Protection Act 2018.

1.18 The systematic reviews were registered on an international database of prospective research (PROSPERO) to avoid research duplication, promote transparency, and minimise risk of bias.

1.19 The original research studies were reviewed by the Health Research Authority's (HRA) Research Ethics Committee, to ensure the interests, safety, and wellbeing of those affected were being protected. Where the research was going to involve access to pseudonymised patient data sets, approval was also sought from the HRA's Confidentiality Advisory Group. This assessment ensures compliance of the research with the Data Protection Act 2018.

1.20 Final HRA approval ensured overall integrity of the research by bringing together the assessment of governance and legal compliance.

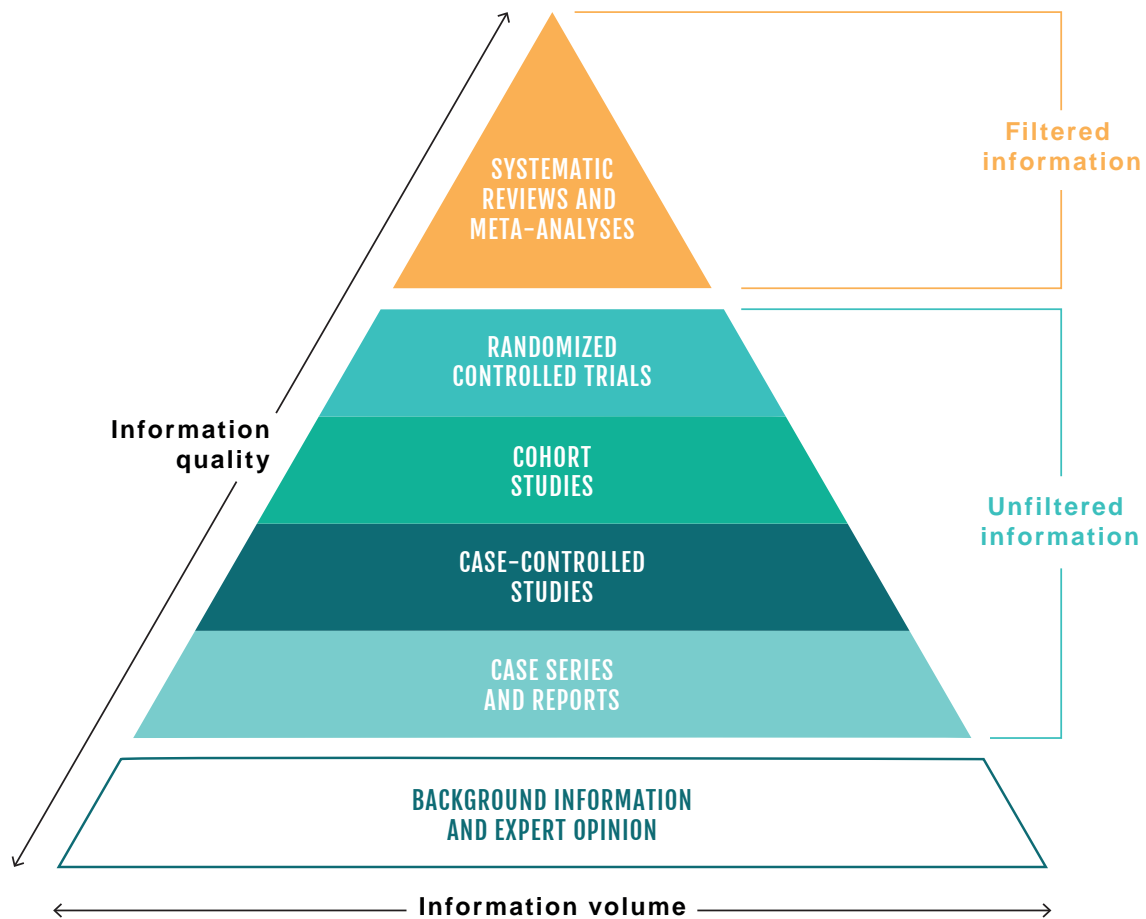
Systemic reviews

Explanatory Box 2:

Systemic reviews

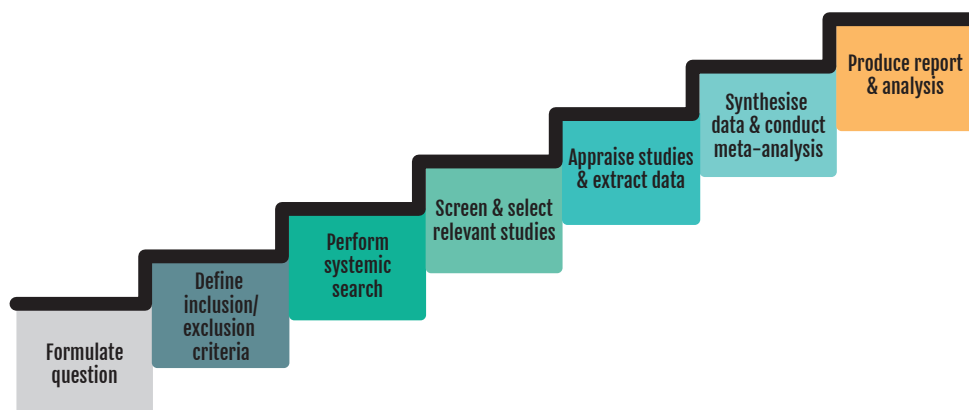
- The highest form of evidence is that generated by a systematic review (Figure 5). A systematic review is different from a general review article. It is a summary of the literature on a particular question that uses explicitly defined and reproducible methods to systematically search, critically appraise, and synthesise primary research information (Cochrane, 2016; NIHRtv, 2010). It is designed to be reproducible, reliable and to eliminate bias.
- Standardised quality assessment tools or questionnaires are available for assessing different types of studies. This ensures that, as far as is possible, different people appraising a paper will come to similar conclusions.

Figure 5: Pyramid of standards of evidence



Source: Reproduced with permission from: OpenMD. (2021, July 17). Levels of evidence. Levels of Evidence in Medical Research. <https://openmd.com/guide/levels-of-evidence>

Figure 6: Steps in a systematic review



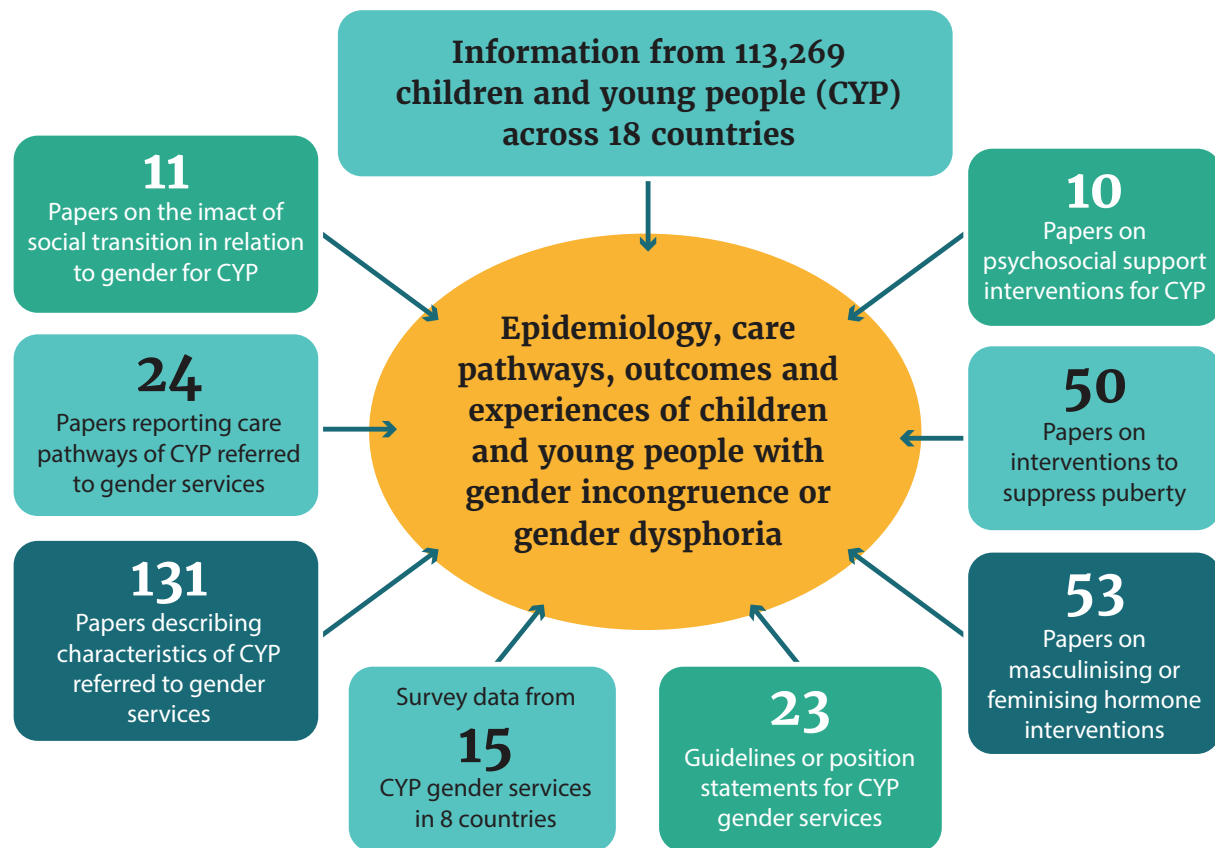
- The purpose of synthesising the data is to combine multiple different studies to get an overall impression of the strength of the evidence; for example, in favour or against a particular intervention. To do this, the reviewers need to assess the quality of the studies in terms of recruitment, bias, design, analysis and all the other factors described above. They will only include studies that meet a quality standard. Provided that those studies have used similar measures and outcomes, their outcomes can be combined (synthesised) across a much larger sample of participants.
- GRADE (Grading of Recommendations, Assessment, Development, and Evaluations) is the system widely used by organisations such as the National Institute for Health and Care Excellence (NICE), Cochrane and the World Health Organization (WHO) to summarise the quality of evidence and make clinical recommendations (GRADE working group, n.d.). There are four levels of certainty about results:
 - **High certainty** - The authors have a lot of confidence that the true effect is similar to the estimated effect.
 - **Moderate certainty** - The authors believe that the true effect is probably close to the estimated effect.
 - **Low certainty** - The true effect might be markedly different from the estimated effect.
 - **Very low certainty** - The true effect is probably markedly different from the estimated effect.
- The certainty is not just based on what kind of trial is used, but also the various pitfalls set out above. So, for example, a RCT will be expected to produce results of high certainty, but if there is high attrition and lots of other sources of bias and confounding, the certainty will drop.
- GRADE is commonly used to describe not just single studies, but the overall quality of evidence on a particular question posed in a systematic review.

1.21 The University of York is the home of the Centre for Reviews and Dissemination, one of three bodies funded by the National Institute for Health and Care Research (NIHR) to provide a systematic review service to the NHS.

1.22 The systematic reviews were commissioned because they are considered to provide the highest level of evidence (Figure 5).

1.23 A single search strategy was developed for all the systematic reviews to identify studies examining gender dysphoria, gender-related distress or gender incongruence in children/adolescents. The search was conducted between 13 and 23 May 2021 and updated on 27 April 2022. The reference lists of eligible studies and any relevant systematic reviews including clinical guidelines that were identified were also checked.

Figure 7: Overview of studies included in the systematic reviews, international survey and guideline appraisals undertaken by the University of York



Source: The epidemiology, care pathways, outcomes, and experiences of children and adolescents experiencing gender dysphoria/incongruence: a series of linked systematic reviews and an international survey report by University of York.

1.24 Overall, searches yielded 28,147 records. Figure 7 shows the number of studies that met the criteria for inclusion. In addition, the research team monitored for and appraised relevant references that were published after the primary search.

1.25 Most of the studies in the systematic reviews were cohort, cross-sectional or pre-post design, explanations for which can be found in explanatory box 1 and on the NICE website (NICE, 2012).

International guideline reviews and survey of gender clinics

1.26 Achieving consensus on the appropriate approach to care for gender-questioning children and young people is challenging both in the UK and internationally. An essential starting point was to obtain an appraisal and synthesis of international guidelines in order to consider whether practice was transferable to the UK.

1.27 Recognising that not all aspects of service delivery were documented in local guidelines and that some countries had changed their approach since their guidelines were written, a survey of gender clinics for children and adolescents across the UK and EU-15+ countries was carried out. This aimed to identify: the range of services provided across a group of countries with similar health services; and consistency/divergence in practice.

1.28 The results of the review of guidelines and international survey are detailed throughout this report.

Quantitative research

1.29 The Clinical Practice Research Datalink (CPRD) collects anonymised patient data from a network of GP practices across the UK to support clinical studies. For more than 30 years, research using CPRD data and services has informed clinical guidance and best practice.

1.30 The Epidemiology & Outcomes for Children and Young People with Gender Dysphoria study, commissioned by the Review, utilised linked primary and secondary data from the CPRD.

1.31 The overall aim was to use electronic primary care records to describe the epidemiology of gender dysphoria in people aged 18 and under in England from 2009 to 2021.

Explanatory Box 3:

Qualitative versus quantitative studies

- Quantitative research generates numerical or measurable data, whereas qualitative research generates information about subjective experiences, feelings and thoughts. Both types of research make a unique contribution to considerations about service provision, treatment options and patient-centred care.
- The methods for conducting qualitative research are as robust as the methods for quantitative research, and also involve identifying a question, and then collecting, analysing, and interpreting data, although the data will be interview-based rather than numerical.

Data linkage study

1.32 Little is known about the support and interventions received by the children and young people who accessed the Gender Identity Development Service (GIDS) and their outcomes.

1.33 The data linkage study, using data held by the NHS, was commissioned to improve the level and quality of evidence for their treatment and care. by using existing data held by the NHS. Data from GIDS, hospital wards, outpatient clinics, emergency departments and adult gender dysphoria clinics (GDCs) would be used to track the journeys of all children and young people (approximately 9,000) referred to GIDS through the system and provide a population-level evidence base of the different pathways people take and the outcomes.

1.34 The objectives stated in the study protocol were:

- i. To describe the clinical and demographic characteristics of this population of children and their clinical management in the GIDS service.
- ii. To assess the intermediate outcomes of this population of children utilising national healthcare data.

1.35 There have been challenges in progressing this study and the findings are not available to inform this report.

Further details are contained in Chapter 15 and Appendix 4.

Qualitative research

1.36 The Review commissioned a participative, qualitative research project with the aim of understanding the full range of experiences and outcomes for young people with gender dysphoria. This research used robust internationally endorsed methods appropriate for qualitative research.

1.37 It sought to capture children's, young people's and young adults' experiences of gender-related dysphoria/distress, their perspectives on their journeys, and their views on how services could and should be delivered in the future, exploring barriers or facilitators to providing this care.

1.38 The study also gathered the perspectives of parents/carers and professionals delivering services on the referral, assessment and treatment pathways currently open to them.

1.39 The objectives of the study were:

- i. To explore how children, young people and young adults understand, respond and negotiate gender-related dysphoria/distress and discomfort within the context of their social networks.
- ii. To examine the perspectives, understandings and responses of parents (or carers), including how they support their child.
- iii. To investigate how children, young people, young adults and their families experience and negotiate current referral, assessment and possible treatment and intervention options within the national specialist service referral, assessment and (possible) treatment.
- iv. To understand the role and experiences of care professionals who offer support, including identifying shared and potentially divergent views of what constitutes optimal care.

Stakeholder engagement

1.40 In addition to the formal qualitative research, the Review has been underpinned by an extensive programme of proactive engagement.

1.41 Support and advocacy groups advised that to hear from the young people at the heart of the Review opportunities needed to be created where they felt safe, could be supported before, during and after their contribution, and would be engaged around topics on which they have a genuine ability to inform and influence decisions.

1.42 The sensitivity of the subject matter, coupled with the fierce public debate, meant that some of the usual methods one might employ when conducting a review of this kind were not appropriate. Indeed, one of the major challenges for the Review has been the difficulty in having open, honest debate as people with differing views can find it uncomfortable to sit together in the same room or on the same stage.

It was abundantly clear that opportunities for people to contribute would need to be carefully navigated and well planned.

1.43 A mixed-methods approach was taken that prioritised two categories of stakeholders:

- People with relevant lived experience (direct or as a parent/carer) and organisations working with LGBTQ+ children and young people generally.
- Clinicians and other relevant professionals with responsibility for providing care and support to children and young people within specialist gender services and beyond.

1.44 Overall, the Review has met with over 1,000 individuals, some in one-to-one meetings and some in bespoke meetings on a particular topic or others focused on building awareness and improving understanding of the issues among interested parties and organisations. Below is an outline of the structured processes employed.

Figure 8: Proactive engagement methods



Lived experience engagement

Personal narratives

1.45 In the early stages of the work the team met with individuals who had conducted comparable reviews and inquiries to learn what they had done to ensure that the views of people affected were captured. Consideration was given to the merits of making an open call for evidence but, unlike for formal public inquiries, there would be no legal status for the information being provided. It was conceded that with no formal process or capacity to analyse the submissions and validate their authenticity, the Review ran the risk of raising expectations and collecting a large volume of potentially sensitive information that it would not be able to effectively process.

1.46 However, the Review did receive a number of written submissions describing individuals' personal experiences of gender services or gender identity exploration. While there was no formal process for analysing these submissions, all were read by the Review to see if the issues they raised were consistent with what had been heard from other sources or were new and relevant. If the latter, the individual was invited to attend a listening session.

Listening sessions (lived experience and professional)

1.47 The Review Chair held weekly listening sessions to hear directly from people with primary lived experience (individuals who identify as transgender, non-binary, gender fluid and/or who have been through a period of gender-questioning) or secondary lived experience relevant to the Review (a parent/ carer of a gender-questioning child or young person or a clinician or other professional with direct and relevant experience working with these children and young people). These confidential sessions have provided the Review

with invaluable insight into how services are currently experienced. They have contributed to the Review's understanding of the positive experiences of living as a trans or gender diverse person as well as uncertainties, complexities and challenges faced by children, young people and their families/carers.

Focus groups - (lived experience)

1.48 In autumn 2022, the Review team hosted a series of focus groups specifically to discuss the proposed data linkage study. Due to the ages of those whose data would be accessed for the research, and concern that the sessions could attract interest from those outside the scope of the study, it was deemed inappropriate to issue an open invitation to the sessions. Instead, the focus groups were promoted via the GIDS stakeholder group, related NHS-funded services, and support and advocacy groups. While this did restrict the team's ability to recruit participants, it ensured that the sessions were conducted in a safe and protected environment.

1.49 Reflecting on and responding to the previous recruitment difficulties, in spring 2023 the Review commissioned (through an Expression of Interest process) six support and advocacy organisations to facilitate 18 focus groups to better understand the thoughts and ideas of young people and adults (aged 14-30) with lived experience. This approach was taken as the commissioned organisations had access to the target audience and were able to provide a supportive environment in which participants felt comfortable and confident to speak freely.

1.50 The Review developed three sets of questions to be used in the groups. These explored:

- Past and current experiences of services including assessment, diagnosis and expectations of clinicians.
- Thoughts and ideas about future services including location, environment and support and the interventions they would want access to.
- Information needs and wider support.

[View summary report.](#)

Regular meetings with support and advocacy organisations

1.51 The Review met regularly with support and advocacy organisations for which support of gender-questioning young people is their primary function or a significant element of their work. Separate meetings were held with each organisation to encourage open and frank conversations. This two-way communication has provided the Review with a better understanding of how service users are experiencing services and policy changes, and given these organisations a greater level of understanding in the work of the Review.

Clinical and professional engagement

1.52 The Review received a high level of clinical input in a variety of forms including listening sessions, group events and workshops (for example, to test thinking on the proposed future service model). Presentations and discussion with different professional groups at conferences or training sessions helped raise awareness of the Review and the dilemmas around clinical care.

Importantly, this created opportunities for a much wider group of clinicians to pose questions, share experiences and contribute to thinking. There have also been regular meetings with the heads of relevant Royal Colleges and professional bodies.

Clinical Expert Group

1.53 A Clinical Expert Group was established to consider the strength of the evidence and findings from the Review's research programme, and assist the Review in achieving clinical consensus where evidence is not available or limited. Membership included clinical experts on children and adolescents in relation to gender, development, physical and mental health, safeguarding and endocrinology.

Thematic roundtables

1.54 Roundtable discussions were facilitated with experts in a range of associated topics to explore specific questions in greater depth. Roundtable discussions were held on:

- intersection of mental health, psychosexual development and gender-related distress
- safeguarding
- workforce
- learning from lived experience

1.55 These discussions are reflected throughout this report.

Professional panel and gender specialists survey

1.56 In autumn 2021, in order to understand the challenges and establish a picture of competency, capacity and confidence among the workforce outside the specialist gender development service, an online professional panel was established to explore issues around

gender identity services for children and young people. The panel engaged in weekly individual or group activities over a six-week period.

[View summary report.](#)

1.57 Following the conclusion of the professional panel the Review undertook an online survey of gender specialists - clinicians and associated professionals who predominantly or exclusively work with children and young people who need support around their gender identity. The survey contained some service specific questions, but also reflected and sought to test some of what the Review had heard from specialists through our listening sessions and from primary and secondary care professionals engaged in the professional panel activities.

[View summary report.](#)

1.58 The outputs from these activities were reported in the interim report (4.29-4.39) and have continued to inform our work.

Engagement with gender specialists

1.59 Much of the clinical experience of working with these children and young people resides among staff with experience of working in GIDS.

1.60 Since the early stages of the Review, the team established fortnightly meetings with clinical and managerial leads from GIDS, providing space to hold open conversations and discuss challenges and ideas.

1.61 The Review has drawn on GIDS' insight, knowledge and experience in several ways. Senior clinical staff have participated in workshops hosted by the Review and two senior clinicians from GIDS sat on the Review's Clinical Expert Group.

1.62 In addition to the gender specialists survey, many of the GIDS clinicians (both current and former) have shared their experience and thoughts in one-to-one listening sessions and their insights have been valuable in building understanding of the challenges of and opportunities for developing a new approach.

1.63 In the latter stages, the Review hosted focus groups with GIDS staff to test and develop emerging thinking on a number of key areas:

- i. workforce and training
- ii. packages of care
- iii. pathways and wider system working

1.64 The Review has also engaged with clinicians working in gender services in other countries.

Summary

1.65 The strengths and weaknesses of the evidence base on the care of children and young people are often misrepresented and overstated, both in scientific publications and social debate. Systematically reviewing and evaluating the evidence has been fundamental to the Review's approach.

1.66 Hearing directly from the children and young people at the heart of this Review, their parents/carers and the clinicians working in and around services trying to support them, has provided valuable insight into the ways in which services are currently delivered and experienced. This has contributed immeasurably to the Review's understanding of the positive experiences of living as a transgender or gender diverse person, as well the uncertainties, complexities and difficulties faced.

1.67 Pulling insights together from these different activities has not been easy. There are areas where there is no clear consensus and finding a middle ground is not possible where perspectives are so polarised.

1.68 Sometimes, there is a mismatch in expectations between service users, their families and advocates and what it is possible for the NHS to provide. In those instances, the Review has needed to think about what would be normal practice in the NHS and then to consider whether there is any reasonable and rational reason for services for this cohort to respond or operate differently.

1.69 This report describes what has been learnt in the course of the Review and provides advice on how the services need to operate in future. A summary of the evidence base underpinning each area of consideration is provided and links to corresponding papers are provided where available.



Context



2. History of gender services for children and young people

2.1 This Review is about services for children and young people who experience gender incongruence/dysphoria or gender-related distress. However, the evolution of care for this group, and some of the dilemmas that have emerged, need to be understood in the broader context of the struggle that transgender people have faced - and still continue to face - in accessing care, support and understanding of their clinical needs.

2.2 There are polarised debates about a range of societal issues involving transgender people in the UK, ranging from use of single sex spaces to participation in sports. Although these issues are outside the scope of this Review, they have an impact on gender-questioning young people because of the inflexibility of the factional opinion and resulting toxicity of the debates. Services for children and young people have evolved within the context of this broader picture and every person involved in this work has been and continues to be affected by the dialogue.

Early gender services for children and young people

2.3 Services for children and young people with gender incongruence started in the mid-1970s in Canada, and in 1987 in the Netherlands. It is important to understand the early populations accessing these services to make sense of how they have changed in more recent years.

2.4 The Gender Identity Development Service (GIDS) was established in 1989 by Domenico Di Ceglie at St George's Hospital, London later moving to The Tavistock and Portman NHS Foundation Trust. Initially, the numbers seen were small (fewer than 10 per annum in the first few years), with pre-pubertal birth-registered males being the largest group.

2.5 The main focus of the early services was on therapeutic work with children and families, with only a small proportion with persisting gender incongruence being referred for hormone treatment from around age 16.

2.6 Several studies from that period (Green et al., 1987; Zucker, 1985) suggested that in a minority (approximately 15%) of pre-pubertal children presenting with gender incongruence, this persisted into adulthood. The majority of these children became same-sex attracted, cisgender adults. These early studies were criticised on the basis that not all the children had a formal diagnosis of gender incongruence or gender dysphoria, but a review of the literature (Ristori & Steensma, 2016) noted that later studies (Drummond et al., 2008; Steensma & Cohen-Kettenis, 2015; Wallien et al., 2008) also found persistence rates of 10-33% in cohorts who had met formal diagnostic criteria at initial assessment, and had longer follow-up periods. It was thought at that time that if gender dysphoria continued or intensified after puberty, it was likely that the young person would go on to have a transgender identity into adulthood (Steensma et al., 2011).

Emergence of the Dutch protocol

2.7 The approach to treatment changed with the emergence of ‘the Dutch protocol’, which was developed by Dr Peggy Cohen-Kettenis founder of the Utrecht clinic. One of the drivers for developing gender care services for children was the recognition of poor mental health outcomes for the adult transgender population, much of which was attributed to minority stress and difficulty “passing” in their expressed gender (Cohen-Kettenis & Van Goozen, 1998).

2.8 In 1998, a single case study (Cohen-Kettenis & Van Goozen, 1998) described a female to male transition where puberty blockers were started at age 13. The rationale for the approach was two-fold; to support the diagnostic procedure by buying time to think and to improve the longer-term ability to pass in the preferred gender.

2.9 The Dutch protocol was further elaborated in an article in 2006 (Delemarre-van de Waal & Cohen-Kettenis, 2006) by which time 54 patients were being treated, and in 2011 the Dutch team published a prospective study (de Vries et al., 2011b) of 70 patients who had received early treatment with puberty blockers between 2000 and 2008. Inclusion criteria were that the patients had to be minimum age 12, have suffered from life-long gender dysphoria that had increased around puberty, be psychologically stable without serious comorbid psychiatric disorders that might interfere with the diagnostic process, and have family support. The authors discussed the challenge in adolescents with an autistic spectrum disorder (ASD) of disentangling “whether gender dysphoria evolves from a general feeling of being just “different” or whether a true “core” cross-gender identity exists”.

2.10 The 70 patients in the study (de Vries et al., 2011b) were a subset of a larger group of 111 cases consecutively referred for puberty blockers; the 70 were selected because they were the first ones ready to start the next stage of treatment - masculinising or feminising hormones. Of the 70 patients, 89% were same-sex attracted to their birth-registered sex, with most of the rest being bisexual. Only one patient was exclusively heterosexual. The outcomes for the remaining 41 cases were not reported.

2.11 During puberty suppression, there was no change in body dysphoria, but behavioural and emotional problems decreased, and general functioning improved. However, not all participants (59-73% on the various measures) completed questionnaires after treatment, a potential source of bias, making it difficult to draw conclusions from the results.

2.12 A confounding factor was that all patients in the Dutch service were seen regularly by their psychiatrist or psychologist whilst on puberty blockers, so it is difficult to separate the therapeutic effects of these sessions from the role of puberty blockers alone.

Explanatory Box 4:

Dutch protocol:

Minimum age 12, life-long gender dysphoria increased around puberty, psychologically stable without serious comorbid psychiatric disorders that might interfere with the diagnostic process and family support.



Move to an affirmative model

2.13 In 2007 Norman Spack established a clinic in Boston, USA modelled on the Dutch protocol and began prescribing puberty blockers from early puberty (Tanner stage 2).

2.14 Practice in the USA began to diverge from the models of care in Canada and the Netherlands, following instead a gender affirmative model advocated by Diane Ehrensaft (Ehrensaft, 2017).

She described the three approaches as follows (Ehrensaft, 2017):

“The first model, represented in the work of Drs Susan Bradley and Ken Zucker [Canada], assumes that young children have malleable gender brains, so to speak, and that treatment goals can include helping a young child accept the gender that matches the sex assigned to them at birth.

The second model, represented in the work of practitioners in the Netherlands, allows that a child may have knowledge of their gender identity at a young age, but should wait until the advent of adolescence before engaging in any full transition from one gender to another.

The third model, represented in the work of an international consortium of gender affirmative theoreticians and practitioners, allows that a child of any age may be cognizant of their authentic identity and will benefit from a social transition at any stage of development.”

2.15 The third model - the ‘affirmative model’ - has subsequently become dominant in many countries. As a result, some gender services have moved away from a more exploratory approach, and this is seen by some advocacy and support groups as a move to ‘gatekeeping’ model.

2.16 It is important to note that staff at GIDS have told us that in their practice an affirmative

model can encompass respecting the young person’s experience and sense of self whilst still exploring the meaning of that experience in a non-directive therapeutic relationship.

Use of puberty blockers in the UK

2.17 The ‘watchful waiting’ approach continued in the UK until 2011, when puberty blockers were trialled under a research protocol; the ‘early intervention study’. This was an uncontrolled study with inclusion criteria in line with the original Dutch protocol, and similar outcome measures. It is unfortunate that a controlled study was not conducted by the UK team, given that this was the only formal attempt to replicate the Dutch approach using directly comparable outcome measures. Using the same methods as the Dutch observational study meant that the same limitations apply; that is, confounding of endocrine and psychological interventions and significant attrition at follow-up.

Early intervention study

2.18 Between 2011 to 2014, 44 patients aged 12-15 were recruited to the ‘early intervention study’ and preliminary results were reported to The Tavistock and Portman NHS Foundation Trust Board in 2015 (Tavistock and Portman NHS Foundation Trust Board papers, 2015), at which point patients had received at least one year of treatment, and at the 2016 World Professional Association for Transgender Health (WPATH) conference when all patients had been followed up for at least two years (Thoughts on Things and Stuff, 2023).

2.19 In contrast to the Dutch group, the UK’s preliminary findings did not demonstrate improvement in psychological wellbeing, and in fact some birth-registered females had a worsening of ‘internalising’ problems (depression, anxiety) based on parental report. In response to the Youth Self Report Scale, there was a significant increase after one

year on treatment in adolescents scoring the statement “I deliberately try to hurt or kill myself” as ‘sometimes true’, especially among birth-registered females ((The Tavistock and Portman NHS Foundation Trust Board Papers, 2015).

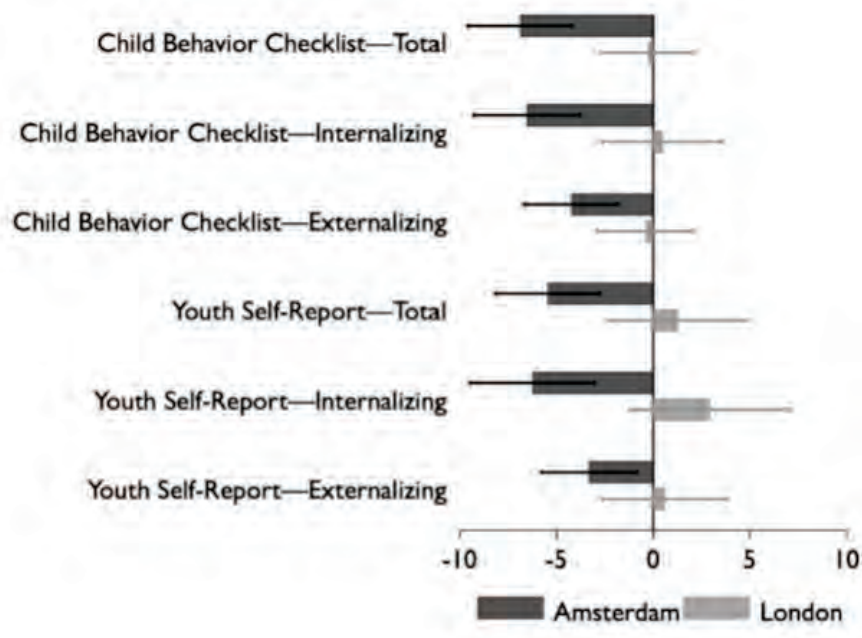
2.20 The early intervention study results were not published in preprint until December 2020 (Carmichael et al., 2021). There were no statistically significant changes reported in gender dysphoria or mental health outcome measures whilst on puberty blockers, and 98% proceeded to masculinising or feminising hormones.

2.21 A secondary analysis of the data from the Dutch and UK studies demonstrated that the two groups were the same at baseline on the key mental health outcome measures that were used to assess changes (Biggs, 2022).

Figure 9 shows the level of improvement in the Dutch cohort and the lack of improvement in the UK cohort after puberty suppression. The reasons for this are not clear but may be due to other baseline differences in the two samples, or differences in the quality of care offered by the two clinics.

2.22 A subsequent re-analysis of the early intervention study (McPherson & Freedman, 2023), using original anonymised data from the study, took account of the direction of change in mental health outcomes for individual young people rather than just reporting group means. This secondary analysis found that 37-70% experience no reliable change in distress across time points, 15-34% deteriorate and 9-29% reliably improve.

Figure 9: Change in psychological functioning after puberty suppression with GnRH [puberty blocker]



Source: Biggs, M. (2022). The Dutch protocol for juvenile transsexuals: Origins and evidence. *Journal of Sex & Marital Therapy*, 49(4), 348-368. <https://doi.org/10.1080/0092623x.2022.2121238>. Published with license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>) by Taylor & Francis Group, LLC.

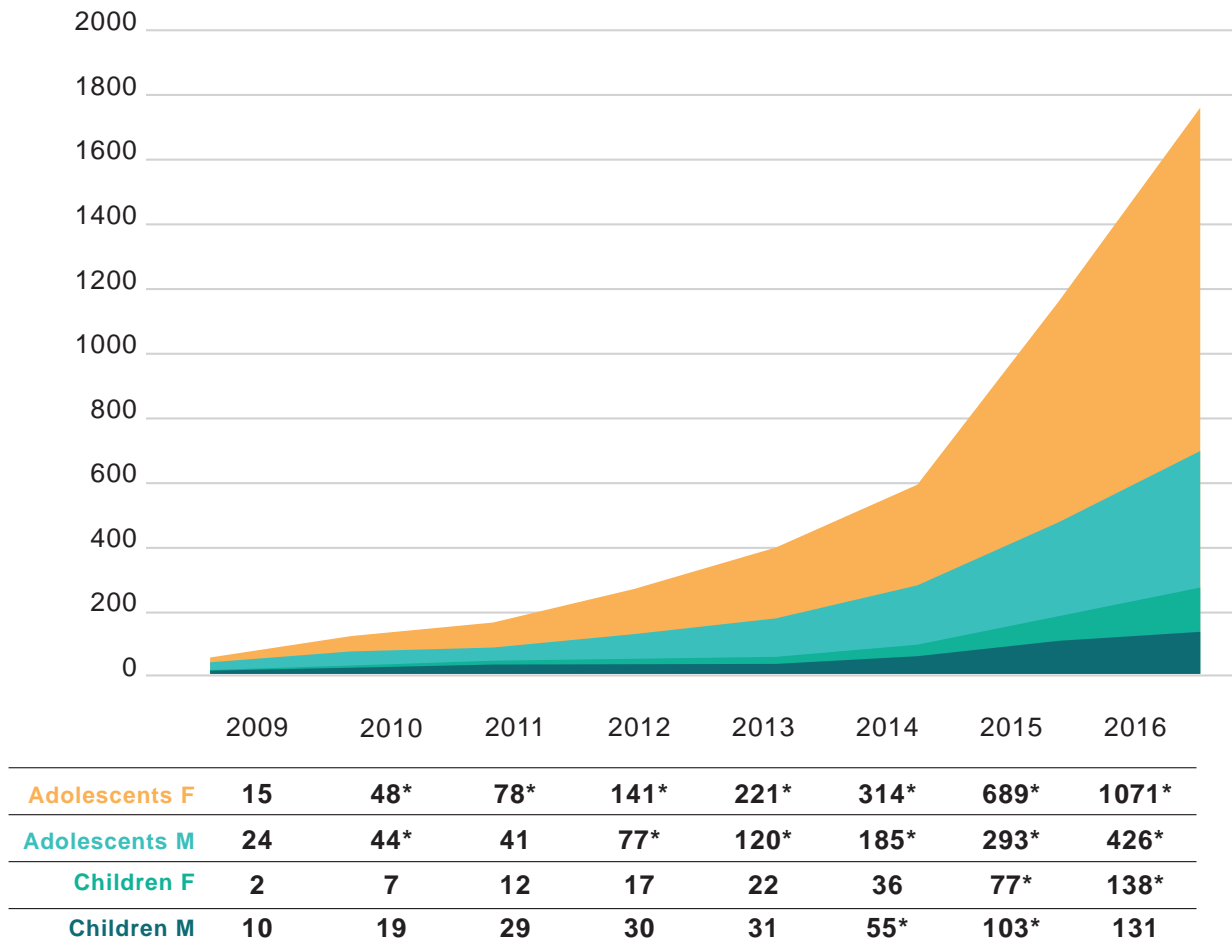
NB: The bar shows the change in T-score from baseline; negative values indicate reduced problems. The line traces the 95% confidence interval. N=54 at Amsterdam, N=41 at London. Data reported from de Vries et al. (2011, Table 2) and Carmichael et al. (2021).

Research into routine practice

2.23 As highlighted in the interim report, in 2014 the number of referrals started to grow exponentially in the UK with a higher number of birth-registered females presenting in early teenage years (Figure 10).

2.24 From 2014, puberty blockers moved from a research-only protocol to being available through routine clinical practice. In light of the above findings, the rationale for this is unclear.

Figure 10: Sex ratio in children and adolescents referred to GIDS in the UK (2009-16)



AFAB = Assigned female at birth

AMAB = Assigned male at birth

*Indicates $p < .05$ which shows a significant increase of referrals compared to previous year

Source: Figure adapted from de Graaf, N. M., Giovanardi, G., Zitz, C., & Carmichael, P. (2018). Sex ratio in children and adolescents referred to the Gender Identity Development Service in the UK (2009-2016). *Archives of Sexual Behavior*, 47(5), 1301-1304. <https://doi.org/10.1007/s10508-018-1204-9>, with permission from Springer Nature.

2.25 In addition, the strict inclusion criteria of the Dutch protocol were no longer followed, and puberty blockers were given to a wider range of adolescents than would have met the inclusion criteria in either the Dutch or UK studies. These included patients with no history of gender incongruence prior to puberty, as well as those with neurodiversity and complex mental health presentations.

2.26 On its establishment, NHS England took on responsibility for commissioning services for children and young people experiencing gender dysphoria. Gender services for children and young people is considered a highly specialised service; these services for very rare and/or complex conditions are usually provided to no more than 500 patients a year. Because of the small number of patients, the services are provided in a limited number of hospitals which enables the clinicians to maintain their expertise.

2.27 In 2016, NHS England refreshed the GIDS service specification, which sets out what a healthcare provider needs to deliver (NHS England, 2019). The Tavistock and Portman NHS Foundation Trust was recontracted to deliver the service.

2.28 The service specification described a therapeutic service providing “psychological/ psychosocial support aimed at increasing the wellbeing and resilience of the client” and “therapeutic exploration of gender identity development and gender expression, including in relation to the client’s familial, social and cultural situation” (NHS England, 2019).

2.29 The specification recognised that “the research evidence around the long-term impacts of some treatments is limited and still developing and that by no means all clients with [gender dysphoria] choose to have physical interventions”. Recognising the uncertainty, it set out that “hormone blockers will be considered as an appropriate treatment alongside psychological intervention” (NHS England, 2019).

2.30 The specification allowed for referral of “carefully selected clients who are at least in Tanner Stage 2 of puberty and are up to the age of 15” to the Paediatric Endocrine Liaison Team’s Early Intervention’ Clinic. The specification stated that “The Early Intervention Clinic will continue to follow the Service’s 2011 research protocol, which following evaluation, has now become established practice, with the exception that hormone blockers will now be considered for any children under the age of 12 if they are in established puberty.” (NHS England, 2019).

2.31 Clinical practice subsequently appears to have deviated from the parameters set out in the service specification which required that the narrow criteria of the 2011 research protocol be followed when considering medical intervention. The adoption of a medical treatment with uncertain risks, based on an unpublished trial that did not demonstrate clear benefit, is a departure from normal clinical practice.

2.32 This, in combination with the long delay in publication of the results of the early intervention study, is likely to have had an impact on patient expectations of the benefits of the intervention and subsequent demand for treatment.

2.33 The Review has been focused on future service provision and did not have a remit to explore in detail the factors contributing to the situation that necessitated an independent review.

2.34 However, there are clearly lessons to be learned by everyone in relation to how and why the care of these children and young people came to deviate from usual NHS practice, how clinical practice became disconnected from the clinical evidence base, and why warning signs that the service delivery model was struggling to meet demand were not acted on sooner.

2.35 One of the problems that has been exposed is the governance of innovative clinical practice. Whilst care cannot improve without innovation, good clinical governance should require collection of data and evidence with appropriate scrutiny to prevent the incremental creep of new practices without adequate oversight.

3. Why this Review?

3.1 In January 2020, a Policy Working Group (PWG) was established by NHS England to undertake a review of the published evidence on the use of puberty blockers and masculinising/feminising hormones in children and young people with gender dysphoria to inform a policy position on their future use.

3.2 Given the increasingly evident polarisation among clinical professionals, Dr Cass was asked to chair the group as a senior clinician with no prior involvement or fixed views in this area.

NHS England Policy Working Group (PWG)

3.3 The PWG comprised:

- 2 senior members of the GIDS team
- 3 endocrinologists working in the linked gender services
- 3 representatives with lived experience
- representatives from the Royal College of Paediatrics and Child Health and the Royal College of Psychiatrists
- an academic child psychiatrist
- a primary care academic
- an academic ethicist

NHS England staff:

- a public health consultant
- the national head of safeguarding
- the senior pharmacy lead
- relevant members of the specialised commissioning team

3.4 NHS England uses a standardised protocol for developing clinical policies (NHS England, 2020). The first step of this involves defining the PICO (the Population being treated, the Intervention, a Comparator treatment, and the intended Outcomes). This of itself was challenging, with a particular difficulty being definition of the intended outcomes of puberty blockers, and identification of suitable comparators for both hormone interventions. However, agreement was reached on what should be included in the PICO and subsequently the National Institute for Health and Care Excellence (NICE) was commissioned to review the published evidence, again following a standardised protocol that has strict criteria about the quality of studies that can be included (NICE, 2020a; NICE, 2020b).

NICE evidence reviews

Puberty blockers (GnRH analogues)

3.5 The key questions for this evidence review were (NICE, 2020a):

- For children and adolescents with gender dysphoria, what is the clinical effectiveness of treatment with GnRH analogues compared with one or a combination of psychological support, social transitioning to the desired gender or no intervention?
- For children and adolescents with gender dysphoria, what is the short-term and long-term safety of GnRH analogues compared with one or a combination of psychological support, social transitioning to the desired gender or no intervention?

3.6 The review of the evidence looked at nine studies that met the inclusion criteria. A key limitation of all the studies examined was the lack of reliable comparative studies, as well as of clear expected outcomes. All the studies were small uncontrolled observational studies, and all the results were of low certainty. Many did not report statistical significance.

3.7 The studies that reported impact on gender dysphoria, mental health, body image and psychosocial impact were of very low certainty and suggested little change from baseline to follow-up. The studies that reported bone density outcomes were similarly unreliable so no safety outcomes could be confirmed.

Masculinising/feminising hormones

3.8 The key questions for this evidence review were (NICE, 2020b):

- In children and adolescents with gender dysphoria, what is the clinical effectiveness of treatment with gender-affirming hormones compared with one or a combination of psychological support, social transitioning to the desired gender or no intervention?
- In children and adolescents with gender dysphoria, what is the short-term and long-term safety of gender-affirming hormones compared with one or a combination of psychological support, social transitioning to the desired gender or no intervention?

3.9 Ten uncontrolled observational studies met the inclusion criteria. Again, the key limitation to identifying the effectiveness and safety of gender-affirming hormones for children and adolescents with gender dysphoria was the lack of reliable comparative studies.

3.10 The included studies had relatively short follow-up, with an average duration of treatment with gender-affirming hormones between around 1 year and 5.8 years.

3.11 Results from five uncontrolled, observational studies suggested that, in children and adolescents with gender dysphoria, gender-affirming hormones are likely to improve symptoms of gender dysphoria, and may also improve depression, anxiety, quality of life, suicidality and psychosocial functioning. The impact of treatment on body image was unclear.

3.12 Most studies included in this review did not report comorbidities and no study reported concurrent treatments in detail. Because of this it is not clear whether any of the changes seen were due to gender-affirming hormones or other treatments the participants may have received.

Outcome of PWG and NICE evidence reviews

3.13 The evidence produced by the NICE reviews was inconclusive to the extent that NHS England could not form a policy position on the use of these medications.

3.14 It was clear that although the PWG and NICE evidence reviews were an important step, they did not give NHS England all the answers needed.

3.15 At the same time, concerns about the increasing numbers of gender-questioning children and young people presenting to the NHS were growing. There had also been questions raised about the capacity of GIDS to manage the caseload, as well as the clinical practice.

Commissioning of the Independent Review

3.16 The need for an independent review was clear and driven by the changing situation over the last 10-15 years:

- The exponential increase in the numbers of children and young people presenting to the NHS for help, outstripping the capacity of services to support them. This had led to a waiting list for specialist services in excess of 2 years.
- The marked change in the case-mix, from predominantly pre-pubertal birth-registered males to predominantly peri or post-pubertal birth-registered females, with no clear explanation for this changed demographic.

- The introduction of earlier medical intervention and the weakness of the evidence underpinning the use of puberty blockers (the ‘Dutch approach’) prior to masculinising or feminising hormones at age 16.
- The lack of long-term follow-up, and a weak evidence base to support decision making and development of a policy position on appropriate care.

3.17 This independent Review was commissioned to make recommendations on models of care, appropriate treatment approaches, audit, long-term follow-up and research, as well as workforce requirements. It was also asked to explore the reasons for the increase in referrals and the change in the demographics of the referred population.



4. Wider context

4.1 Since the Review was commissioned, there have been a number of public policy initiatives that, while outside the scope of the Review, have nudged up against its work and may have an effect on the support offered to young people in the future.

4.2 These have led to increased public attention on these issues, creating increasingly hostile and polarised debate. Within this, the Review and the children and young people at its heart have at times been weaponised or misrepresented to justify different positions.

4.3 On occasion the Review has been asked to speak to teams developing these policy areas. In such instances, the Review has provided evidence-based information but has tried not to step beyond the clinical focus of its remit.

Bell v Tavistock

4.4 In October 2019, a legal complaint was lodged against GIDS. It raised concerns about the adequacy of the consent procedures for hormone treatment and described hormone therapy as “experimental” (*Bell v Tavistock*) ([2020] EWHC 3274 (Admin)).

4.5 The case was based on whether the processes whereby the complainant was assessed and referred for hormone treatment were adequate and lawful. The case was heard as a Judicial Review, which focuses on the lawfulness of a particular practice. The High Court found that the processes were lawful.

4.6 The High Court considered that the information that the child would need to understand to have the requisite competence in relation to puberty blockers, would be as follows ([2020] EWHC 3274 (Admin)):

- the immediate consequences of the treatment in physical and psychological terms;
- the fact that the vast majority of patients taking puberty blockers go on to cross-sex hormones and therefore that s/he is on a pathway to much greater medical interventions;
- the relationship between taking cross-sex hormones and subsequent surgery, with the implications of such surgery;
- the fact that cross-sex hormones may well lead to a loss of fertility;
- the impact of cross-sex hormones on sexual function;
- the impact that taking this step on this treatment pathway may have on future and life-long relationships;
- the unknown physical consequences of taking puberty blockers; and
- the fact that the evidence base for this treatment is as yet highly uncertain.

4.7 Controversially they went on to conclude that it would be “doubtful” that 14/15-year-olds have such competence, and “highly unlikely” that children aged 13 or under have competence.

4.8 This High Court decision was overruled on appeal ([2021] EWCA 1363 (Civ)). The Court of Appeal was critical of the High Court’s reliance on contested evidence and of the age-based guidelines for competence, given that the very basis of Gillick is that the stage at which a child can demonstrate competence in relation to a decision about a particular medical intervention is individual.

4.9 The *Bell v Tavistock* case points to the contested nature of the evidence around the factors listed above and the understanding needed in order for a child or young person to be able to consent to enter onto a hormone pathway.

4.10 The ability of the child or young person to lawfully consent to this proposed treatment is only one issue. There are two other issues to be addressed; the judgement that the clinician makes as to whether a treatment is indicated for a patient, and the information they provide to them about the potential benefits, risks and alternatives.

Care Quality Commission (CQC) report

4.11 In October and November 2020, the Care Quality Commission (CQC) inspectors carried out an announced, focused inspection of GIDS due to concerns reported to them by healthcare professionals and the Children’s Commissioner for England. Concerns related to clinical practice, safeguarding procedures, and assessments of patients’ ability to consent to treatment.

4.12 The CQC report, published in January 2021 (CQC, 2021), gave the service an overall rating of inadequate. The report noted the high level of commitment and caring approach of the staff but identified a series of issues that needed improvement. In addition to the growing waiting list pressures, the CQC identified problems in several other areas including: the assessment and management of risk; the variations in clinical approach; the lack of clarity and consistency of care plans; the lack of any clear written rationale for decision making in individual cases; and shortfalls in the multidisciplinary mix required for some patient groups. Recording of capacity, competency and consent had improved since new procedures were put in place in January 2020; however, there remained a culture in which staff reported feeling unable to raise concerns.

4.13 The CQC reported that when it inspected GIDS, there did not appear to be a formalised assessment process, or standard questions to explore at each session, and it was not possible to tell from the notes why an individual child might have been referred to endocrinology whilst another had not. Current GIDS data demonstrate that a majority of children and young people seen by the service do not get referred for endocrine treatment, but there is no clear information about what other diagnoses they receive, and what help or support they might need.

4.14 In response to both the original *Bell v Tavistock* judgment and the CQC findings, NHS England established a Multi-Professional Review Group (MPRG). Its remit is to review cases referred to the endocrinology clinic for puberty blockers to determine whether the agreed processes for assessment and informed consent have been properly followed.

The outcome of the Bell Court of Appeal decision did not change this requirement, given the concerns raised by CQC regarding consent, documentation and clarity about decision making within the service.

Interim report and subsequent developments

4.15 The Review has taken an iterative approach and has provided advice at various stages where there was sufficient clarity and clinical agreement about the way forward. In March 2022, the Review published an Interim Report and has subsequently written to NHS England in July 2022 (Appendix 6) and January 2023 (Appendix 7) setting out initial findings and early advice.



4.16 In response, NHS England has begun to implement changes to the clinical service offer in parallel to the Review conducting its business. This includes its decision to decommission GIDS as part of a managed transition of the service, initially to two new nationally networked services (Phase 1 providers) based in specialist children's hospitals.

4.17 While it is positive that improvements have already been made, it has added a layer of complexity to the work of the Review as the clinical landscape has shifted. This will be described in more detail in Part 5 of this report.

4.18 This has inevitably meant that, alongside establishing the longer-term vision for NHS gender identity services for children and young people, some of the Review's focus was redirected to ensure that the development of these interim services focused on the comprehensive, patient and family centred service the Review has outlined.

4.19 It is against this ever-moving, often turbulent backdrop and significant public, political and media attention, that the Review has been conducting its own programmes of work.



Understanding the patient cohort



This part of the report sets out what is currently understood about the characteristics of children and young people who are seeking NHS support for gender incongruence and/or dysphoria and considers what may be driving the rise in prevalence and the change in the case-mix.

Within its terms of reference (Appendix 1), the Review was asked to explore “the reasons for the increase in referrals and why the increase has disproportionately been [birth-registered] females, and the implications of these matters”.

This goes to the heart of some of the core controversies in this area, specifically the nature and causes of gender incongruence and dysphoria, which then has bearing on the appropriate clinical response.

A failure to consider the cause, potential influences and contributory factors can lead to people taking polarised positions. Nuanced discussion is needed about how best to understand and respond to the children and young people at the centre of the debate.

Explanatory Box 5:

Gender incongruence

A marked and persistent incongruence between an individual’s experienced gender and the assigned sex (ICD-11).

Gender dysphoria

Clinically significant distress or impairment of function (DSM-5).

5. Changes in the patient profile

5.1 Throughout the lifetime of the Review, the long waiting lists to access clinical services have been a significant concern for the NHS, and all those supporting this group of children and young people. Child and Adolescent Mental Health Services (CAMHS) and paediatric services are stretched across the UK, but as highlighted in the Review's interim report, gender-questioning children and young people appear to be disproportionately disadvantaged because they are frequently bypassed by local services once on a waiting list for gender services.

5.2 Understanding the numbers being referred is not enough of a basis for the NHS to plan gender services for children and young people. Underlying the numbers is a group of young people who often have a range of needs and/or associated conditions. Any service design has to take account of their holistic needs, not just their gender identity.

Sources of information

5.3 Several sources of information were used to understand the patient profile. These included:

- a systematic review (Taylor et al: Patient characteristics)
- data from the Clinical Practice Research Datalink (CPRD), a database of anonymised patient data from general practices across the UK
- an audit of referral data to the Gender Identity Development Service (GIDS), carried out by NHS Arden & GEM Commissioning Support Unit

- information from international colleagues
- discussions with a range of clinical staff through roundtable events and one-to-one meetings. The points represented are those where there was consistency in clinical perspective.

5.4 The systematic review (Taylor et al: Patient characteristics) examined the numbers of children and adolescents up to the age of 18 referred to specialist NHS gender or endocrinology services. It aimed to determine whether the change in characteristics of the population reported by various national clinics was reflected in published evidence, and how the population had changed over time.

5.5 In total, 131 papers met the inclusion criteria for the systematic review. These covered a wide international base but were primarily from North America, Europe and Australia.

5.6 Information on demographics, gender-related data, mental health, neuro-developmental conditions and adverse childhood experiences were collated from the study papers.

5.7 Where comparable numeric data were available between studies, these data were combined to improve understanding. Where numeric data were not available, the authors described the findings of the research studies in a narrative form.

5.8 At the time of writing, the CPRD study has reported preliminary findings on prevalence of gender dysphoria, co-occurrence of autism spectrum disorder (ASD), anxiety and

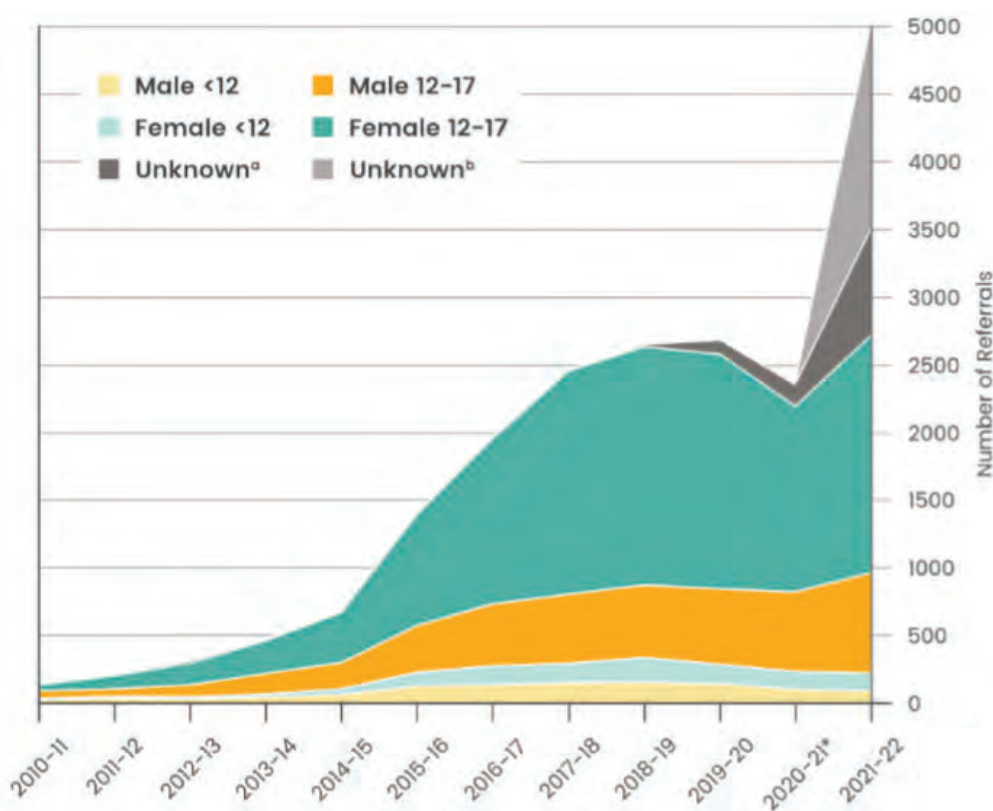
depression. Data for 3,782 people with gender dysphoria under the age of 18 were identified by primary care and hospital care codes for the study period 2009 to 2021. The full methodology for the CPRD study can be found in Appendix 5, as well as the strengths and limitations of the data. Only the incidence and prevalence data are included in this report, pending release of the fuller findings by the University of York on completion of the study.

Demographics

UK data

5.9 From 2014 referral rates to GIDS began to increase at an exponential rate, with the majority of referrals being birth-registered females presenting in early teenage years (Figure 11).

Figure 11: Child and Adolescent Referrals for Gender Dysphoria (UK, GIDS), 2010/11 to 2021/22



*Referral activity to GIDS/Tavistock was sharply limited in 2020-2021 due to COVID-19.

^a Beginning in 2018-19, increasing numbers of referrals are not reported by birth registered sex.

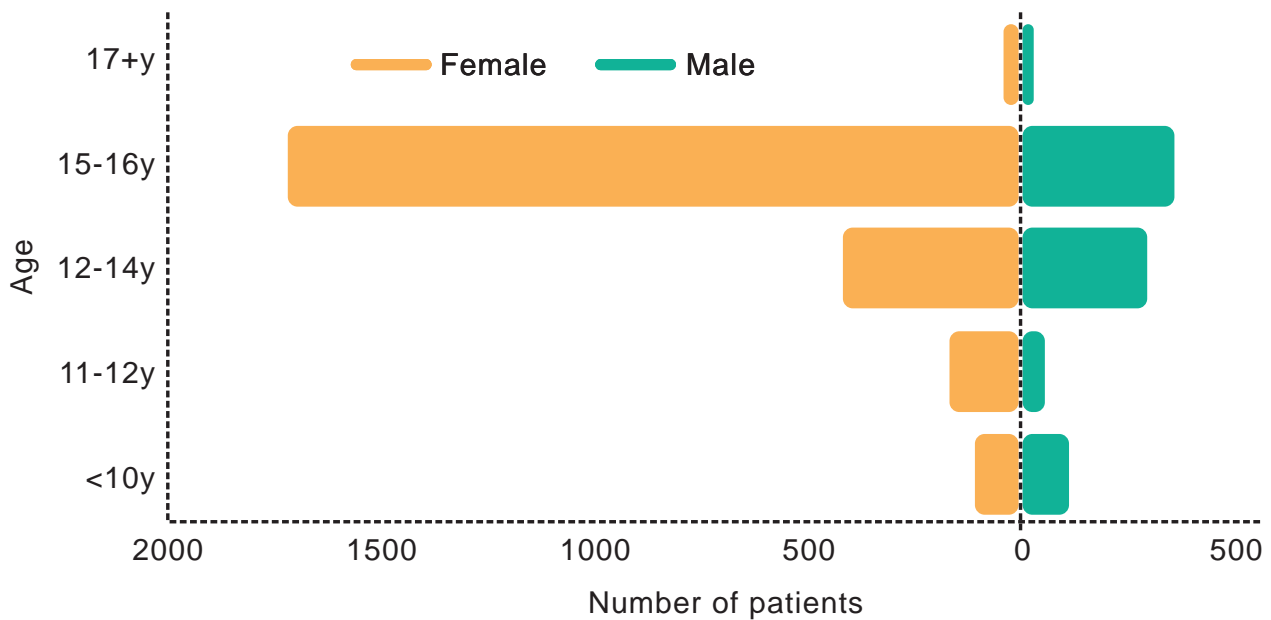
^b Limitations of the data: From the end of July 2021, AGEM CSU received referrals for GIDS from non-NHS sources (GP, schools, local authority, voluntary sector). All NHS referrals into GIDS went directly to the Tavistock and Portman GIDS. Data from the Tavistock and Portman GIDS website indicated that during 2021/22 they received in excess of 3000 referrals and further referrals received by AGEM CSU (approximately 1500 referrals) were not counted. Combined this indicated that the GIDS received a total of approximately 5000 referrals in 2021/22 alone. When reviewing the data that the GIDS provided against the number of referrals transferred into AGEM CSU as part of the waiting list transfer, the CSU only received 3115 referrals that were "new". This is significantly less than the number expected considering that they reported that in 2021/22 there were over 5000 referrals received. It is difficult to know if the quoted, over 5000 referrals in 2021/22, is correct. There is a strong possibility that there was double counting during 2021/22 as the referral numbers received by AGEM CSU were being reported to the GIDS who were then also sharing this information with the Care Quality Commission.

AGEM CSU: Arden & GEM Commissioning Support Unit.

5.10 Figure 12 below shows referral data from an audit of discharge notes of GIDS patients discharged from the service between 1 April 2018 and 31 December 2022 (Appendix 8). The youngest age of patients referred to GIDS was

3 years, the oldest age was 18 years and the mean and median 14 years. Of these referrals, 73% were birth-registered females and 27% birth-registered males.

Figure 12: Distribution of patient's age on referral and birth registered gender on referral to GIDS, 1 April 2018 to 31 December 2022

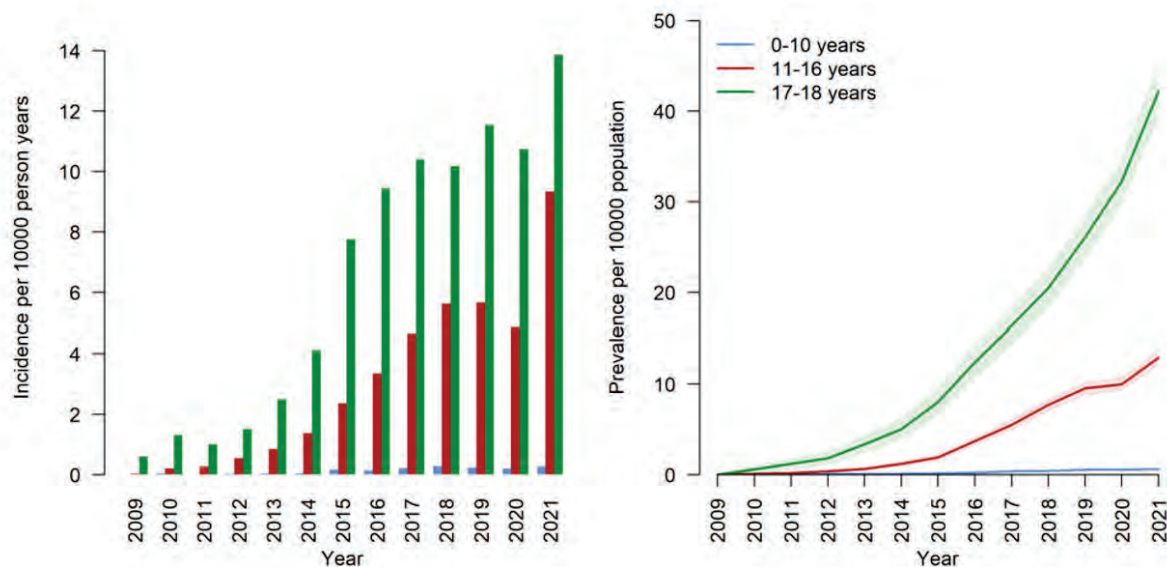


Source: The Gender Identity Development Service Audit Report, Arden & GEM

5.11 In the sample drawn from CPRD data (Figures 13 & 14) (Appendix 5), recorded prevalence of gender dysphoria in people aged 18 and under increased over 100-fold between 2009 and 2021. This increase occurred in two phases; a gradual increase between 2009

and 2014, followed by an acceleration from 2015 onwards. Increases in this second phase were more rapid for people registered as female, although clinical records do not indicate whether their recorded gender had been changed.

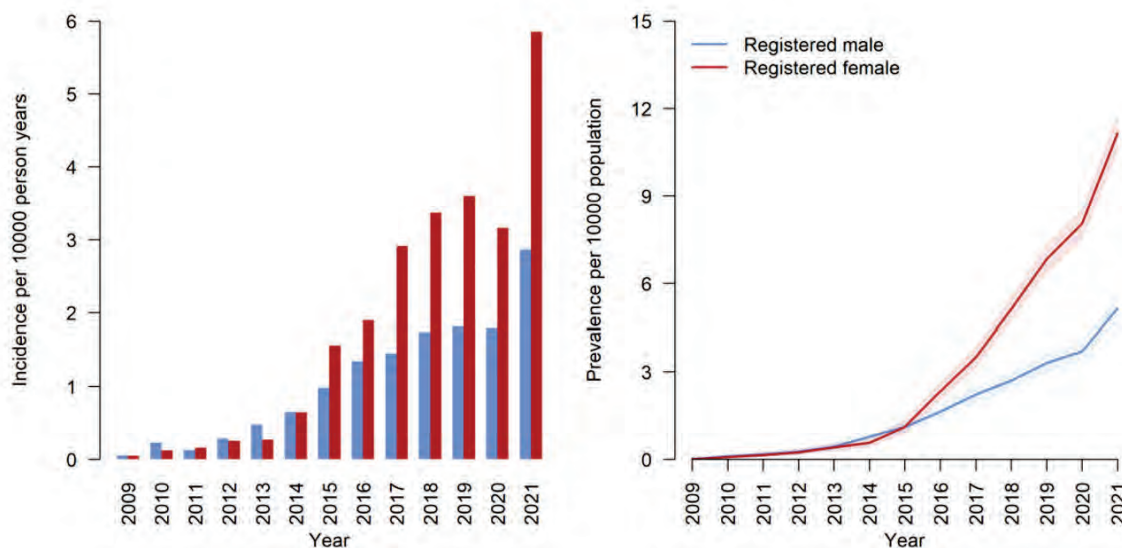
Figure 13: Incidence of recorded prevalence of gender dysphoria by age group



Source: *Epidemiology and Outcomes for Children and Young People with Gender Dysphoria: Retrospective Cohort Study Using Electronic Primary Care Records*

NB: Shaded areas on prevalence graph denote 95% confidence intervals.

Figure 14: Incidence of recorded prevalence of gender dysphoria by registered gender



Source: *Epidemiology and Outcomes for Children and Young People with Gender Dysphoria: Retrospective Cohort Study Using Electronic Primary Care Records*

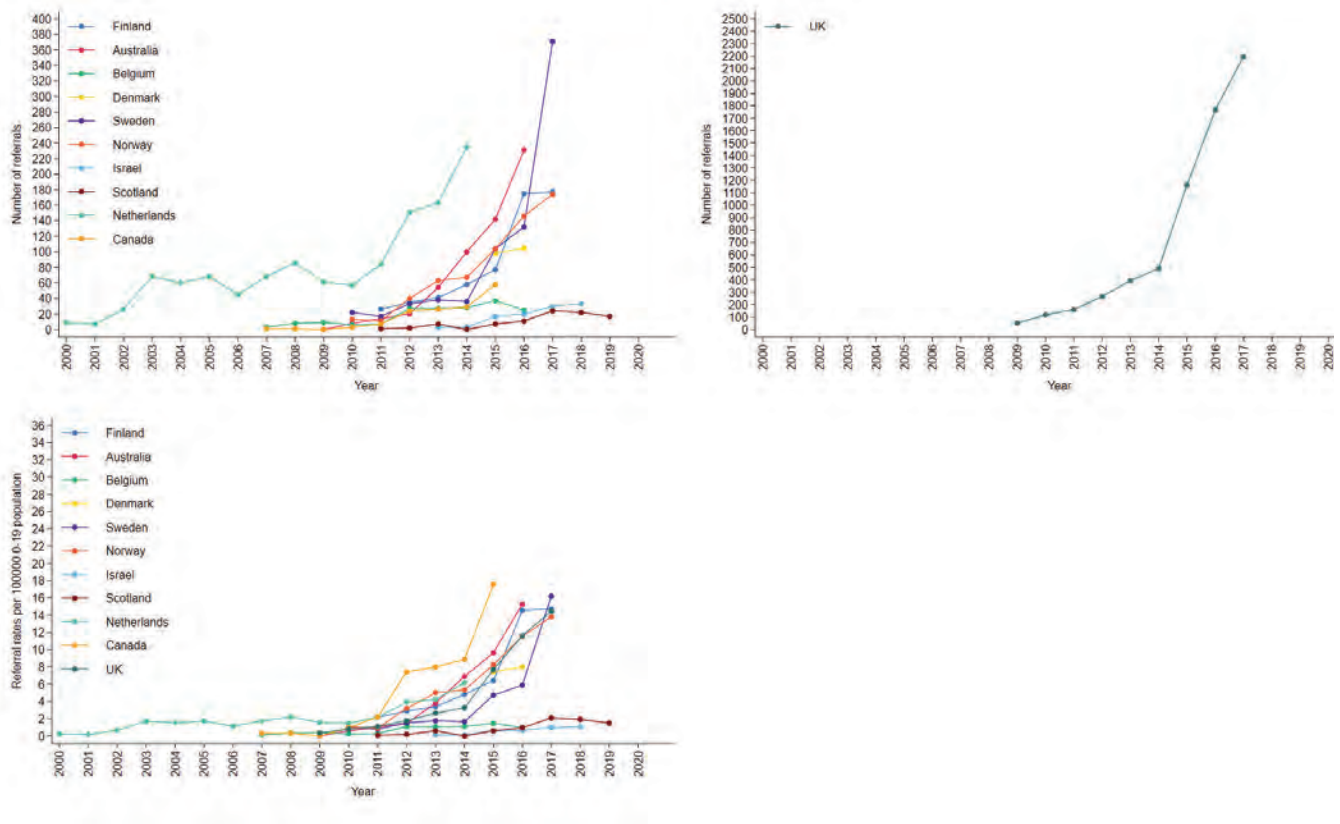
NB: Shaded areas on prevalence graph denote 95% confidence intervals. Patients can request to have their recorded gender changed on their clinical records without undergoing gender reassignment treatment, and CPRD reports the latest recorded gender only.

Comparison of UK and international data

5.12 The systematic review (Taylor et al: Patient characteristics) documented the increase in referrals across 11 countries. Around 5-6 years

into each graph there is a sharp increase in referrals. The inflection point for the increase in referrals in the UK was in 2014, with similar timing in several other countries. In the Netherlands, the increase started from 2001, with an inflection point in 2011.

Figure 15: Number of referrals over time by country



Source: Taylor et al: patient characteristics

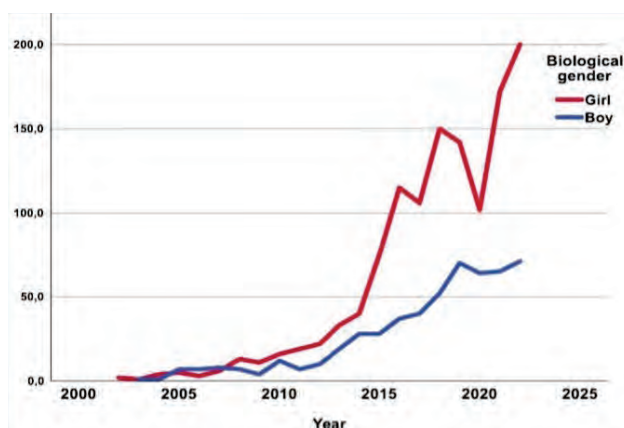
5.13 The first two graphs (Figure 15) show absolute numbers of referrals, and the UK appears to be an outlier with much larger numbers of referrals. However, the third graph is adjusted for the size of the 0-19 year old population in each country (that is, numbers per 100,000) and this brings the UK in line with other countries.

5.14 Whereas in the early days of providing gender services for children and young people, the majority of referrals were pre-pubertal children, between 2006 and 2013 both the Canadian and Dutch gender clinics reported that adolescent referrals had overtaken child referrals (Aitken et al., 2015).

5.15 Multiple countries reported a gradual switch in sex ratio towards a birth-registered female prevalence. Further data from Canada and the Netherlands showed that child referrals of birth-registered males still outnumbered those of birth-registered females, with the ratio switching in adolescence.

5.16 Figure 16 from the Norwegian national gender clinic demonstrates the divergence of the birth-registered male/female curves, and a transient fall off during the Covid-19 pandemic (Anne Wæhre, personal communication, 2023).

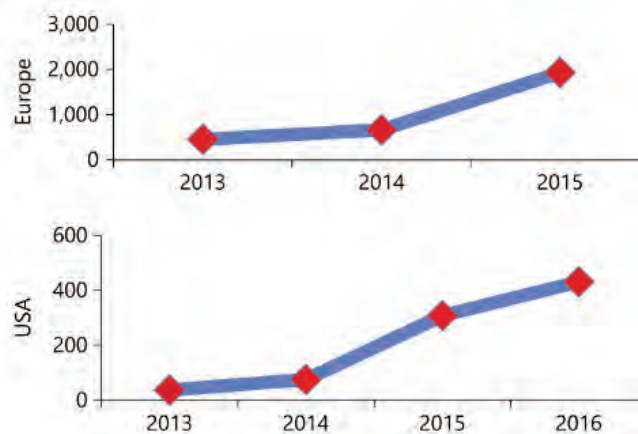
Figure 16: Referrals to the National Gender Clinic for children and young people in Norway



Source: Anne Wæhre, personal communication, 2023

5.17 The number of children and young people referred to endocrine clinics has increased in parallel to the numbers referred to gender clinics (Figure 17). An international survey conducted by the European Society of Paediatric Endocrinology and Paediatric Endocrinology Society in 2017 collated data over the preceding three years from 25 centres across Europe, the USA and South America (Skordis et al., 2019). This represents the largest single international pooled sample of referrals. Again, this shows an increase in referrals beginning in 2014. Of this group, 63% were transitioning from female to male.

Figure 17: Numbers of referrals to participating endocrine European and U.S. centres, 2013-2016



Source: Skordis, N., Butler, G., de Vries, M. C., Main, K., & Hannema, S. E. (2019). ESPE and PES International Survey of Centers and Clinicians Delivering Specialist Care for Children and Adolescents with Gender Dysphoria. *Hormone Research in Paediatrics*, 90(5), 326–331. <https://doi.org/10.1159/000496115>
© 2019 S. Karger AG, Basel

Gender characteristics

5.18 The systematic review (Taylor et al: Patient characteristics) looked at four key features of gender presentation: gender identity; formal diagnosis; age at onset; and social transition. Reporting of these characteristics was inconsistently documented and highly variable. Data on the percentage of children and young people who had socially transitioned prior to referral is discussed in Part 4.

5.19 Formal diagnosis of gender dysphoria was reported in 65 studies, with proportions ranging from 29% to 100%. The variable rates may be because of the different criteria for referral to the specialist gender clinics.

5.20 In most studies gender identity was not specifically reported. Where it was, estimates of non-binary identity ranged from 0-19%. The UK census, capturing data on the UK population over the age of 16, first enquired about gender identity in 2021 (Office for National Statistics, 2023a). Methodological issues regarding terminology have raised concerns about the validity of some of the data (Office for National Statistics, 2023c). However, the data is of interest in relation to young people and adults identifying as non-binary. The 16-to-24-year age-group had the highest proportions of people who identified as a transgender woman (0.15% or 9,000), as a transgender man (0.22% or 14,000), and as non-binary (0.26% or 17,000). The proportions who identified with these categories then decreased in each increasing age group.

5.21 The higher number of people who identified as non-binary compared to those who identified as a transgender woman or transgender man is important in raising awareness of the need to recognise and deliver

appropriate support for this group when they present to the NHS. The census data are also consistent with clinicians reporting seeing an increasing number of non-binary young people.

Co-occurring conditions

5.22 In addition to the change in referral numbers, sex ratio and gender identities, clinical staff working in GIDS and other gender services internationally have reported a change in the case-mix. Adolescents in particular seem to have more complex presentations, with greater mental health and psychosocial needs, as well as additional diagnoses of ASD and/or attention deficit hyperactivity disorder (ADHD).

5.23 The Review has spoken to clinicians working in child and adolescent mental health and in paediatric services. They report seeing an increase in children and young people presenting with issues around gender identity alongside mental health difficulties, suggesting young people are seeking and accessing care across a broader range of NHS services.

5.24 An important aim of this Review is to find ways to ensure that these children and young people are able to get their needs met as efficiently as possible, regardless of their point of first contact so that they are not having to navigate and negotiate multiple referrals.

5.25 A serious shortcoming of the literature was that it was challenging to track changes over time due to overlapping datasets, and a lack of consistency in the reporting of key characteristics of the population. This is a major problem in trying to understand how the pattern of co-occurring conditions has evolved, which is key to understanding what approaches have been put in place to help young people address them and whether these delivered benefit to the young person.

Mental health needs

General mental health problems

5.26 Of the studies identified in the systematic review (Taylor et al: Patient characteristics) almost 50% reported data on depression and/or anxiety, and close to 20% reported other mental health issues. In short, rates of depression, anxiety and eating disorders were higher in the gender clinic referred population than in the general population.

5.27 The following table gives synthesised summary data on mental health where these are available.

5.28 A study comparing Dutch and Canadian gender clinic populations (de Vries et al., 2015) found that mental health problems were more common among them than in the general population, but levels were similar to children and young people referred to those in mental health services for other non gender-related problems.

5.29 The Dutch clinic cohort, where a puberty blocker protocol was first introduced (the Dutch protocol), was found to have a lower incidence of associated problems compared

to the Canadian clinic cohort. Other studies also demonstrated lower rates of mental health problems in the population referred in the Netherlands (de Vries, et al., 2011a) (only approximately 33%) compared to the Finland and the UK gender clinics.

5.30 In Finland (Kaltiala-Heino et al., 2015; Karvonen et al., 2023) more than three-quarters of the referred adolescent population needed specialist child and adolescent psychiatric support due to problems other than gender dysphoria, many of which were severe, predated and were not considered to be secondary to the gender dysphoria.

5.31 A more recent paper from Finland (Kaltiala et al., 2023) looked at whether the mental health needs of children and young people referred to gender services had changed in combination with the increase referral rate. This found that the gender dysphoria group had much greater mental health needs than age matched peers, and that those presenting more recently (2016-2019) had greater needs than those presenting in earlier cohorts (1996-2000). This appears to be the only paper which has systematically reported on changes over time in mental health needs.

Table 2: Synthesised data on mental health diagnoses in gender clinic referred population

DIAGNOSIS	COUNTRIES INCLUDED	DATE RANGE	% REFERRED CYP	95% CI	RANGE (%)
Eating disorders	8	1998-2019	5	2-8	0-23
Depression	13	1980-2021	38	31-45	3-78
Anxiety	13	1980-2021	38	31-46	8-100

Source: Taylor et al: Patient characteristics

NB: A patient population (country) may have had multiple study reports over time. In which case, data, from the study over the longest time period or that was most representative of the population was selected.

CYP: Children and young people; CI: confidence interval.

Specialist mental health conditions

5.32 The Review held a series of discussions with clinicians seeing children and young people with conditions usually referred to specialist services, for example, clinicians working in: specialist clinics for children with body dysmorphic disorder; specialist eating disorder services; and services for children with tics. A common factor with many of these specialist conditions is that they can occur when a person's mental stress or distress shows itself through physical symptoms, such as pain, tics, neurological symptoms or other problems which affect their ability to function.

5.33 The consultants and psychologists working in these services described young people presenting with these conditions in combination with gender-questioning or gender-related distress.

5.34 One example is functional movement disorders, particularly functional tic-like behaviours (FTLB). Classic neurodevelopmental tics usually start in childhood and if they last longer than a year a child could be diagnosed with Tourette's syndrome; of those diagnosed, around 70-80% are boys. In contrast, "FTLB are typically found to occur in young females, with complex, disabling and tic-lookalike patterns, usually triggered by exposure to videos portraying tic-like behaviours on social media". FTLB are associated with high levels of depression and anxiety (Nilles et al., 2022).

5.35 The association between FTLB and gender diversity described by clinical staff is reported in the literature, with one study (Martino et al., 2023) reporting that 41% of patients with functional tics had a gender minority identity, and the gender minority group also had significantly higher rates of anxiety, depression, social phobia and social interaction anxiety.

5.36 Body dysmorphic disorder (BDD) is another condition for which there has been an increase in presentations of young people. It is one of the obsessive-compulsive disorders (OCD), where there is a preoccupation with body image and with compulsive revisiting or avoidance of thoughts to manage distress. A recent study using population data (Krebs et al., 2024) found that BDD is more common in females than males (prevalence of 1.8% versus 0.3%), and that adolescent girls are at highest risk with an estimated prevalence of 3.4%. The condition is relatively rare before puberty. Many patients were found to be on the autistic spectrum and 80% of patients with BDD included in the study had suicidal ideation.

5.37 BDD is often underdiagnosed or misdiagnosed - young people do not access mental health services because they feel that their concerns about their appearance may be dismissed. However, there are improved treatment outcomes for young people who have profound distress from BDD, with exposure-based cognitive behavioural therapy (CBT), sometimes combined with medication (Rautio et al., 2022).

5.38 Clinicians have described to the Review how in patients with BDD, the intense focus on appearance is most commonly on facial features, but that some experience distress about genitalia or breasts. In this situation it can be difficult to determine whether the distress is due to BDD or gender dysphoria. However, at the end of a treatment package for BDD some young people say they no longer feel ill at ease with their birth-registered gender, while some may have less distress about their genitalia or breasts but still have marked gender incongruence and proceed to a social or medical gender transition.

5.39 The distressing symptoms that occur in these ‘body and mind’ conditions are real, and like pain or discomfort that arises from other causes can be addressed and helped with psychological interventions. It is very important that gender-questioning young people are able to access these evidence-based treatments alongside any other clinically appropriate interventions to support their gender care.

Neurodiversity

5.40 Table 3 shows synthesised summary data on prevalence of ASD and ADHD where this was available in the papers included in the systematic review.

5.41 Some research studies have suggested that transgender and gender-diverse individuals are three to six times more likely to be autistic than cisgender individuals, after controlling for age and educational attainment (Warrier et al., 2020).

5.42 These findings are echoed by clinicians who report seeing teenage girls who have good cognitive ability and are articulate, but are struggling with gender identity, suicidal ideation and self-harm. In some of these young people the common denominator is undiagnosed autism, which is often missed in adolescent girls. Others may go on to receive a diagnosis of emotionally unstable personality disorder (EUPD) when they enter adult services.

5.43 Despite often being highly articulate, intelligent and skilled in many areas, autistic young people have difficulties with social communication and peer relationships, which may make it difficult for them to feel accepted and ‘fit in’.

5.44 Difficulties with interoception (making sense of what is going on in their bodies) and alexithymia (recognising and expressing their emotions) can sometimes make it hard for these young people to express how they are feeling about their internal sensations, their gender identity and their sexual identity.

Table 3: Synthesised data on neurodiversity in the gender clinic referred population

DIAGNOSIS	COUNTRIES INCLUDED	DATE RANGE	% REFERRED CYP	95% CI	RANGE (%)
ASD	9	1998-2019	9	6-11	0-26
ADHD	9	1998-2021	10	7-13	2.5-27

Source: Taylor et al: Patient characteristics

NB: A patient population (country) may have had multiple study reports over time. In which case, data, from the study over the longest time period or that was most representative of the population was selected.

CYP: Children and young people; CI: Confidence interval.

5.45 In addition, mental health disorders including anxiety, depression, eating disorders, functional neurological disorder, OCD and BDD are more common in autistic children and young people (González-Herrero et al., 2022; Lai et al., 2019).

5.46 Mind and body understanding and integration are dependent on an individual child/young person's chronological age, developmental level and the presence or absence of neurodevelopmental differences. These factors may mean that these individuals identify and communicate experiences of stress/distress differently from other neurotypical individuals.

5.47 Working this out may take longer than it does for neurotypical individuals, making neurodiverse young people potentially vulnerable into their early 20s or longer because of their tendency to want black and white answers, and their difficulty in tolerating uncertainty.

Adverse childhood experiences

5.48 The systematic review (Taylor et al: Patient characteristics) highlighted the fact that relatively few studies reported on adverse childhood experiences (ACEs), but those that did demonstrated high rates amongst children and young people referred to gender services (ranges given below):

- combined neglect or abuse (11-67%)
- physical abuse (15-20%)
- sexual abuse (5-19%)
- emotional abuse (14%)
- maternal mental illness or substance abuse (53% and 49%)
- paternal mental illness or substance abuse (38%)

- exposure to domestic violence (23-25%)
- death or permanent hospitalisation of parent (8-19%)
- loss of parent through abandonment resulting in adoption (1-8%), foster care (1-12%) or children's home placement (0.5 - 5%).

5.49 While the high numbers of ACEs reported in the systematic review are notable, as relatively few studies have documented ACEs, it is not possible to determine how the number has varied over time.

5.50 However, a review of the first 124 cases seen by GIDS (Di Ceglie et al., 2002) found that just over a quarter of all referrals had spent some time in care and nearly half of all referrals had experienced living with only one parent. It showed that 42% of the children covered by the audit experienced the loss of one or both parents, mainly through separation; 38% had family physical health problems; and 38% had family mental health problems. Physical abuse was documented in 15% of cases.

5.51 This suggests that regardless of the change in demographics, ACEs and broader adversity within the family unit are important issues to be aware of when assessing young people's needs and planning a support package for them.

Suicidality and death by suicide

5.52 There is considerable concern about the risk of death by suicide among gender diverse youth and debate about whether gender-affirming treatments reduce this risk. This section discusses what is known about suicidality and the risk of suicide in this population and Chapter 15 discusses what is known about whether gender-affirming treatments reduce that risk.

5.53 Suicide is the act of taking one’s own life voluntarily and intentionally, whilst suicidality encompasses suicidal thoughts (sometimes called suicidal ideation), suicide plans and suicide attempts.

5.54 Understanding the factors that can put young gender-questioning people at risk is of crucial importance to the young people themselves, their families and the clinical staff looking after them. Balanced information, which is realistic and practical, and does not over-exaggerate or underestimate the risks, is essential to support everyone involved and identify young people in most urgent need of help.

5.55 Table 4 gives synthesised summary data on suicide attempts, self-harm and suicidal ideation where this was available. The majority of studies that separated self-harm or suicidality by birth-registered sex found higher rates in birth-registered females versus males.

5.56 A large study (de Graaf et al., 2020) examined rates of suicidality across Canadian, UK and Dutch gender clinic cohorts, generating 2,771 youth in the sample. Suicidality was assessed using two questions from standardised scales. Carers and young people were asked to rate ‘now or within past 6 months’ in response to: carers - “Deliberately harms self or attempts suicide”, “Talks about killing self”; and young people - “I deliberately try to hurt or kill myself”, “I think about killing myself”. The

study compared rates of suicidality in the gender clinic referred population with standardised data from the general adolescent population and non-trans identified youth referred to child and adolescent mental health services.

5.57 There was variation between clinics, but across the three clinics, rates of suicidality ranged from 27% to 55%. These rates of suicidality were significantly higher than for the general adolescent population, but similar to non-trans identified youth referred to child and adolescent mental health services. Higher rates of suicidality were observed in birth-registered females, as is the case in the general adolescent population.

5.58 The same paper (de Graaf et al., 2020) reviewed 17 previous studies that had reported rates of suicidal ideation ranging from 17% to 87%, and of suicide attempts ranging from 12% to 54%. The wide range reflects different methodologies and gender clinic populations.

Deaths by suicide

5.59 Deaths by suicide in children and young people are relatively rare events, compared to adult suicide. However, each one is a tragic event. In the UK, the death of every child and young person under 18 is reviewed and information about causation is collected by the National Child Mortality Database (NCMD).

Table 4: Synthesised data on suicide attempts, self-harm and suicidal ideation in the gender clinic referred population

DIAGNOSIS	COUNTRIES INCLUDED	DATE RANGE	% REFERRED CYP	95% CI	RANGE (%)
Suicide attempts	11	1976-2021	14	11-17	9-30
Self-harm	11	1976-2021	29	23-25	8-56
Suicidal ideation	10	2002-2021	39	30-48	10-87

Source: Taylor et al: Patient characteristics

NB. A patient population (country) may have had multiple study reports over time. In which case, data, from the study over the longest time period or that was most representative of the population was selected.

CYP: Children and young people CI: Confidence interval.

5.60 The latest NCMD report on suicide in children and young people (NCMD, 2021) looked at deaths between 1 April 2019 and 31 March 2020. There were 108 deaths that were assessed as highly or moderately likely to be due to suicide (about 2 deaths per week of under 17-year olds). The overall suicide rate in England was 1.8 per 100,000 9-17-year olds.

5.61 The Child Death Overview Panel reviewed 91 of the cases (NCMD, 2021). They examined a range of background factors which included household functioning (for example, family members with a medical or mental health problem, domestic abuse, divorce or parental separation), mental health needs, neurodevelopmental conditions, sexual orientation, sexual identity and gender identity, abuse and neglect, bullying, problems in school, social media use, and drug or alcohol use.

5.62 Household functioning was found to be the most common factor - 63 (69%) of deaths, with mental health needs in 50 (55%), bullying in 21 (23%), neurodevelopmental conditions in 15 (16%) and sexual orientation, sexual identity and gender identity in 8 (9%).

5.63 Of the children or young people, 81 (89%) had more than one recorded factor and 51 (56%) had factors in five or more categories. Over one-third (33, 36%) had never been in contact with mental health services.

5.64 Another source of data in the UK is the National Confidential Inquiry into Suicide and Safety in Mental Health (2023). This looked at all-age suicide in people already under the care of mental health services. Between 2016-2020, there were 223 deaths by suicide of patients who identified as lesbian, gay or bisexual and 37 patients that the report described as “within a trans group” in the UK. They qualified this by explaining that “we are using “trans” as an umbrella term to include transgender,

transsexual, or non-binary but we acknowledge that the terms people use to describe their own identity can be dynamic and we will be monitoring this in future reports”. The report stated that 13 of the 37 were under 25. A high proportion of these individuals had experienced childhood abuse. Self-harm and personality disorder diagnosis were common in this group.

5.65 The Review met with The Tavistock and Portman NHS Foundation Trust to discuss deaths of patients (where known) who had been referred to or were currently or previously under the care of GIDS. The patients who died by suicide between 2018 and 2023 were described as presenting with multiple comorbidities and/or complex backgrounds. In addition, the trust observed that risk of suicidality was heightened at transition points in patient care; for example, between child and adult services. The young people were more likely to be registered female at birth, identifying as male in adolescence.

5.66 Looking to international data, a recent study in Finland (Ruuska et al., 2024) reviewed all gender clinic referred adolescents between 1996 and 2019 (2,083) and compared them to age-matched controls (16,643). There were 55 deaths in the study population, of which 20 were deaths by suicide. Although the suicide rate in the gender-referred youth was higher than in the general population, this difference levelled out when specialist-level mental health treatment was taken into account. Overall, it is difficult to draw firm conclusions because the absolute risk of suicide in the population of gender dysphoric youth and in the control population was very low, so numbers were thankfully small.

5.67 Although the data suggest that the numbers of deaths by suicide in this group of young people is very low, every death of a children or young people is a tragedy and a devastating loss. In each case, there is a strong need to understand what happened and why, so that anything that can be done to prevent future deaths is identified and acted upon.

Changes in the patient profile

5.68 The systematic review (Taylor et al: Patient characteristics) documented the rapid increase in referrals across many countries and concluded “These children show higher than expected levels of ASD, ADHD, anxiety, depression, eating disorders, suicidality, self-harm, and ACEs. Agreement on the core characteristics data to be collected at referral/assessment would help to ensure studies measure key outcomes and enable services to develop to meet the needs of these children. Services need to assess and respond to any co-occurring needs and complexities”.

5.69 Today’s population is different from that for which clinical practice was developed with a higher proportion of birth-registered females presenting in adolescence. They are a heterogenous group with wide-ranging co-occurring conditions, often including complex needs. This needs to be reflected in the services offered by the NHS.

6. Developmental considerations for children and adolescents

6.1 Two particularly critical periods of development are early childhood and adolescence. It is very important to understand several aspects of typical development - from what happens before birth through early childhood to adolescence, as well as the range of normal variations.

6.2 This has bearing on what might happen when clinical interventions are used and on the different issues involved in considering gender care for children and young people compared to that for older adults.

6.3 The issues covered in this section have relevance for:

- understanding what is known about the biology of gender incongruence.
- understanding about mental health vulnerability.
- considerations for social transition (see Chapter 12).
- potential impacts of puberty blockers (see Chapter 14).
- potential impacts of masculinising/feminising hormones (see Chapter 15).
- obtaining consent (See Chapter 16).

Gender development through childhood and adolescence

6.4 Biological sex is determined by sex chromosomes. Males have an X and Y chromosome (XY) and females have two X chromosomes (XX). In early pregnancy, all foetuses have the potential to become male or female. A gene on the Y chromosome drives production of testosterone, which is necessary to produce internal and external male genitalia. In the absence of testosterone, the foetus will develop female anatomy.

6.5 There are many biological differences between males and females; for example, height, muscular strength, life expectancy, as well as susceptibility to certain illnesses such as lung cancer or heart disease. There are also very large overlaps between characteristics.

6.6 Academics have identified three important ways in which sex differences are expressed (Babu & Shah, 2021):

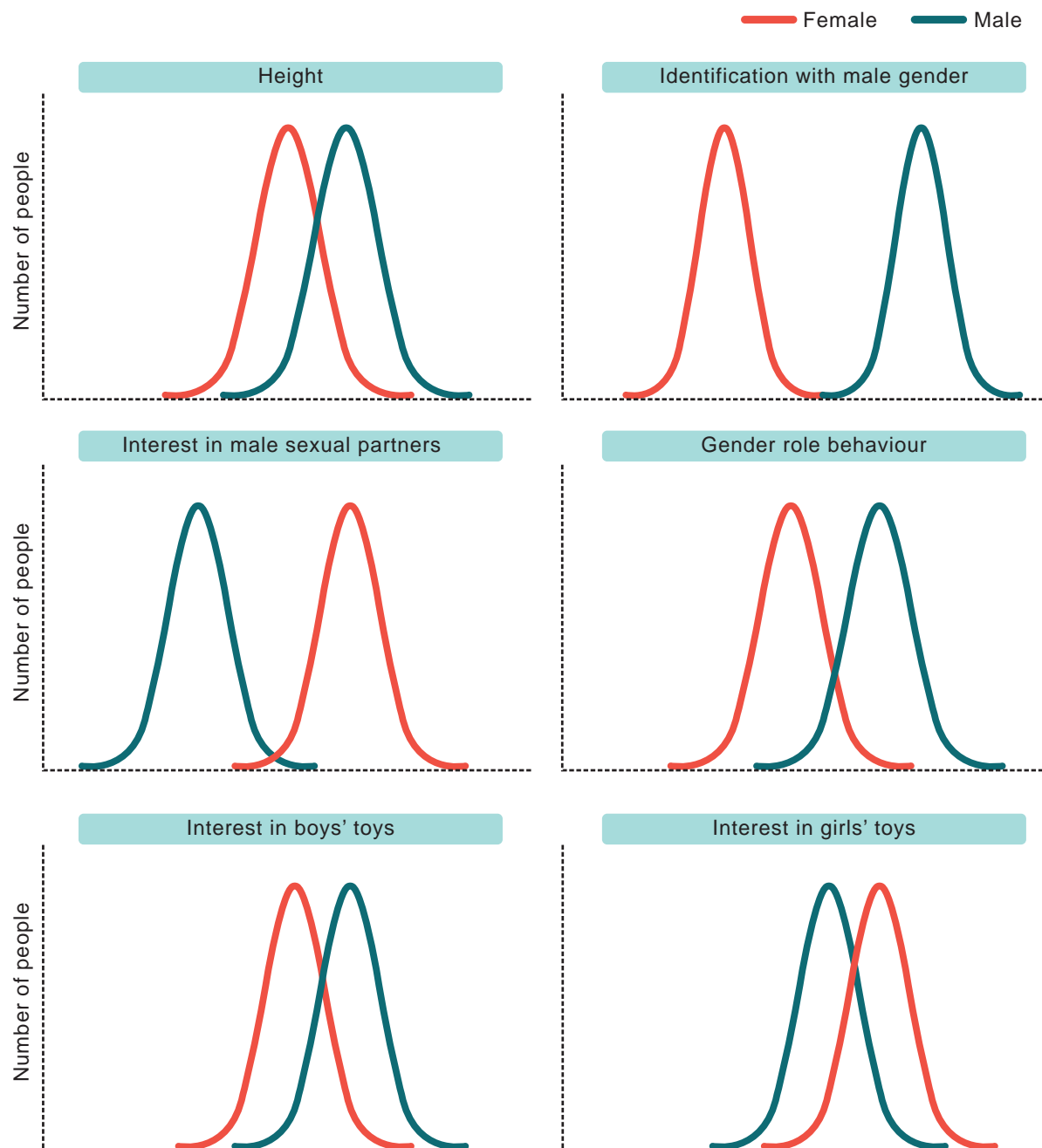
- gender role behaviours (these are behaviours such as toy preferences, play, physicality)
- gender identity (an innate sense of belonging and self-identification of one's gender as male, female or an alternative gender)
- and later, sexual orientation (the sex of the individuals to whom one is sexually attracted).

6.7 It is thought that all three of these can be influenced by biological and social factors, and this is an evolving area of research.

6.8 Figure 18 summarises these characteristic sex differences in humans. The use of the terms 'boys' toys' and 'girls' toys' by the author may feel uncomfortable but it is a classification that is used in academic study. The figure also

illustrates the size of the sex difference in adult human height. Height is included to provide a familiar comparator for contextualising the sizes of the behavioural/psychological sex differences (Hines, 2020a).

Figure 18: Illustration of the overlap in distributions of scores for males and females for psychological/behavioural characteristics that show large and reliable sex differences



Source: Adapted from Hines, M. (2020). Human gender development. *Neuroscience & Biobehavioral Reviews*, 118, 89-96. <https://doi.org/10.1016/j.neubiorev.2020.07.018>, with permission from Elsevier.

NB: Higher scores for gender role behaviour represent more male-typical behaviour. The overlap for height is included as a familiar comparison.

6.9 In the UK, the average male is 5'9" tall and the average female 5'4". Some females are taller than some males, and this is part of normal variation. It would be very difficult to guess whether a 5'7" person was male or female from their height alone, because this falls right in the middle of the overlap.

6.10 Societal expectations and stereotypes have driven the idea that gender role behaviours, gender identity and sexuality should all align with birth-registered sex. This is not always the case. Gender role behaviours, gender identity and sexuality can vary independently of each other.

6.11 Females are most commonly attracted to male partners, and vice versa, but there is an overlap between males and females, with some individuals being same-sex attracted, attracted to both sexes, neither sex, or more fluid in their sexual preferences.

6.12 Children's sense of gender identity most commonly aligns with their birth-registered sex, but there is considerable variability in the rate at which they develop gender constancy, and the expression of their gender identity.

6.13 Some children will have gender role behaviours that do not align strongly with their birth-registered sex, but a gender identity that does align. They may grow up to be heterosexual or same-sex attracted.

Development of gender role behaviours

6.14 Like other areas of development, gender identity and gender role behaviours have typical milestones (de Vries et al., 2013; deMayo et al., 2022).

6.15 Differences in gender role behaviours are apparent in pre-school, when children start to show gender stereotyped behaviour in their play. Around this time, they seek to play with same-sex peers.

6.16 Toy choice has been extensively studied. Researchers classify toys into those that are typically preferred by boys (for example, cars and trucks) and those that are typically preferred by girls (for example, dolls). A systematic review (Davis & Hines, 2020) demonstrated that these differences in toy choice are very large.

6.17 Like biological characteristics such as height, there is a large overlap in gender role behaviours. This variability in gender role expression exists from an early age (some girls exhibit behaviours that are traditionally perceived as more masculine, and some boys exhibit behaviours that are perceived as more feminine).

6.18 A common assumption is that toy choice and other gender role behaviours are solely a result of social influences; for example, that boys will only be given trucks and girls will only be given dolls to play with. Although this is partially true, there is evidence for prenatal and postnatal hormonal influence on these behaviours, which will be discussed later.

Development of gender identity

6.19 In 1966, Kohlberg set out a theory of gender identity development (Kohlberg, 1966). Kohlberg's theory describes the typical progression of children acquiring gender identity (realising they are boys or girls) at 2-3 years old, acquiring gender stability (realising that gender does not change) at 3-4 years, and acquiring gender constancy (realising that superficial indicators such as clothes do not change gender) at 5-6 years.

6.20 Modern childhood experiences are different from when Kohlberg was writing, and contemporary research is needed to better understand and examine these fundamental principles, as well as the influence of early childhood experiences on gender identity development.

Interaction of nature and nurture

6.21 Sex differences in the brain emerge in the second half of pregnancy. There is strong evidence from animal studies that these changes are driven by the presence or absence of testosterone and have a long-term effect on sex-typed development (Bakker, 2014).

6.22 All three of the human characteristics that show particularly large sex differences (childhood sex-typed play, sexual orientation and gender identity) have been found to relate to early testosterone exposure.

6.23 Sex-typed play has been studied more extensively than any other human behaviour in this context, and at least 10 independent research groups have reported a link to prenatal testosterone exposure (Hines, 2015).

6.24 Much of this work is based on children who are born with atypical sex hormone levels. These conditions are called differences in sex development (DSD), previously termed intersex.

6.25 The most commonly studied DSD is congenital adrenal hyperplasia (CAH). In this condition, genetic females (XX) usually have high levels of testosterone caused by changes in their genes. These high testosterone levels start antenatally, and result in partially masculinised genitalia (Babu & Shah, 2021).

6.26 Genetic females (XX) with CAH are usually reared as females as they have female internal organs with reproductive capacity, yet they are more likely than other females to have male role behaviours (for example, male-type play and toy choice), and reduced female-typical play. In adulthood, 50-75% will be exclusively heterosexual, whilst the remainder will be bisexual or same-sex attracted. Only 2-5% will have gender dysphoria that leads to gender reassignment; however, some will have a weaker female identity (Berenbaum & Beltz, 2011). Therefore, it appears that in CAH, while prenatal testosterone exposure has a strong impact on gender role behaviour, gender identity predominantly aligns with sex of rearing.

6.27 Similarly, genetic males (XY) with complete androgen insensitivity syndrome (CAIS) have functioning testes but their cells are unable to respond to testosterone, and they show female-typical play patterns (Hines, 2020a).

6.28 A more unpredictable situation is when genetic males (XY) are born with a range of conditions where they have normal testosterone levels but have a very deformed or absent penis. If these children are raised as girls, the majority will continue to identify as female, despite their normal male hormone levels (Meyer-Bahlburg, 2005).

6.29 There are numerous other forms of DSD. Practice has changed from the earlier era management approach of early surgical modification to match an individual's assigned sex. Now the emphasis is on assessing the

infant's biology and using that to predict the most likely developmental outcomes with which to guide sex of rearing. This approach makes it less likely that irreversible surgery or medical intervention will be given before the individual is able to understand their body (and its capabilities), and their psychosexual development is advanced.

6.30 An important finding is that some DSD conditions have more predictable gender identity outcomes. In other DSD conditions, long-term predictions are less reliable, and in those cases sex of rearing seems to be a stronger predictor of gender identity in childhood and beyond.

6.31 In summary, studies of children with DSD suggest that a complex interplay between testosterone levels, external genitalia, sex of rearing and socio-cultural environment all play a part in eventual gender identity. This is important to consider when trying to understand the range of pathways that might lead to gender incongruence.

Changes from adolescence into adulthood

6.32 There are two important periods of brain development - the first up to age three, and the second from adolescence into adulthood.

6.33 Adolescence is a period of rapid social, emotional, physical and cognitive development that can be difficult for some young people to navigate. Pubertal changes in hormones result in changes to the physical body and the brain, alongside major changes in social expectations and demands.

6.34 An understanding of brain development and the stages of adolescence is essential in understanding how gender identity relates to the other aspects of adolescence. It is also important to consider in relation to the management of gender incongruence and gender-related distress during this period.

Changes in the brain during adolescence

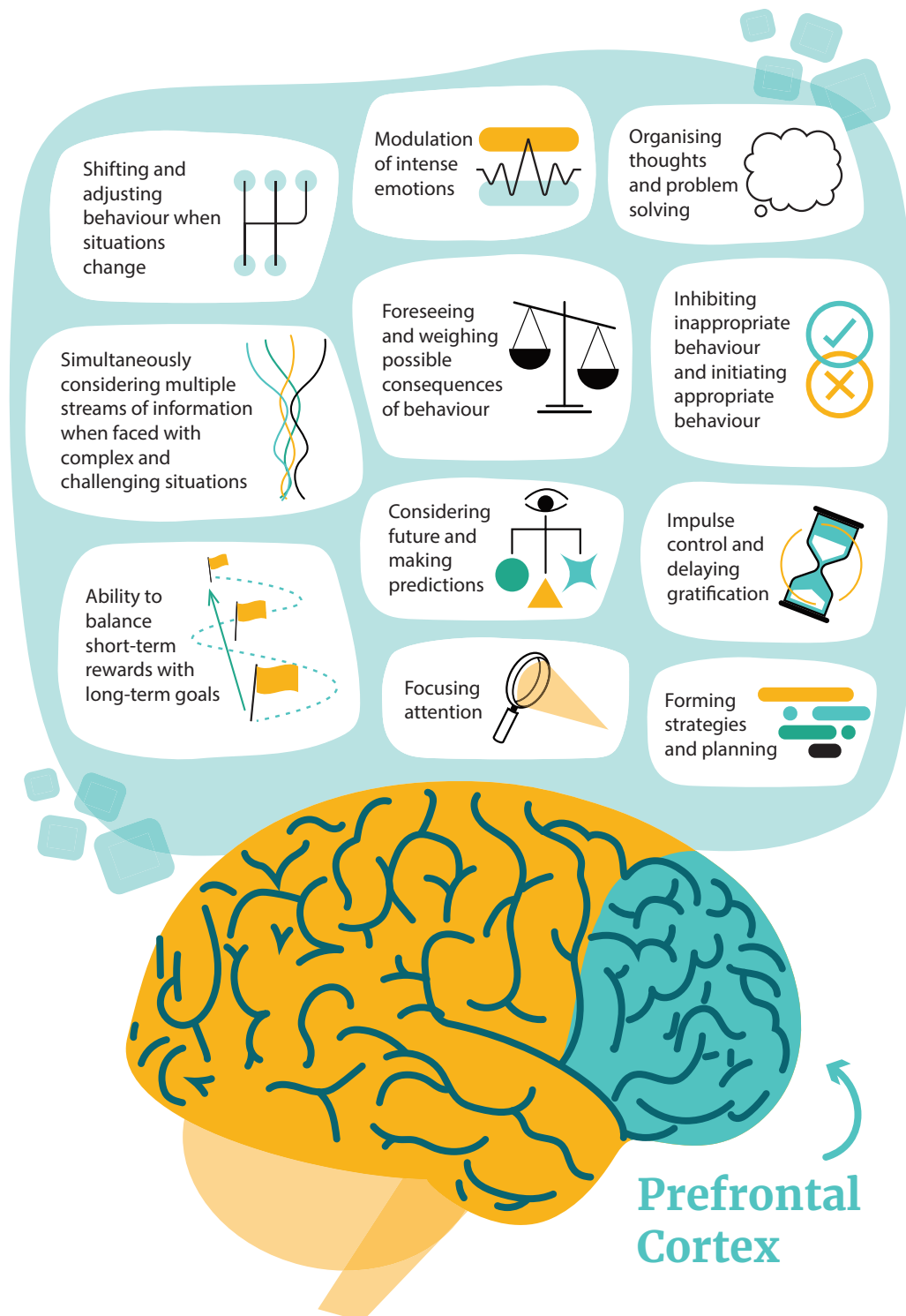
6.35 Starting in early puberty unused neural connections are pruned, and other important connections are made stronger and faster.

6.36 It used to be thought that brain maturation finished in adolescence, but it is now understood that this remodelling continues into the mid-20s as different parts become more interconnected and specialised (Giedd, 2016).

6.37 This brain remodelling does not proceed evenly. Changes in the limbic area, which is 'present-orientated' and concerned with risk taking and sensation seeking, begin with puberty; this part of the brain becomes super sensitised, drives emotional volatility, pleasure and novelty seeking, and also makes adolescents more sensitive to social rejection, as well as vulnerable to addiction and a range of mental health problems.

6.38 The 'future orientated' prefrontal cortex matures later, with development continuing into an individual's 20s, and as illustrated in Figure 19, is concerned with executive functions such as complex decision making, rational judgement, inhibition of impulsivity, planning and prioritisation.

Figure 19: Maturation of the adolescent brain



Neuropsychiatric Disease & Treatment 2013;9 449-461 - Originally published by, adapted and used with permission from Dove Medical Press Ltd.

6.39 By the age of 15 an adolescent will make similar decisions in relation to hypothetical situations as an adult. However, although adolescents can balance the possible harm or benefit of different courses of action in theory, in the real world they may still engage in dangerous behaviours, despite understanding the risks involved. Hence, both the role of emotions and the connection between feeling and thinking are relevant to how adolescents make decisions (Arain et al., 2013).

The ‘social brain’

6.40 The ‘social brain’ is the network of brain regions that are involved in understanding other people’s intentions, desires and beliefs. The slowly maturing prefrontal cortex is a key part of this network, so there are considerable changes in these abilities through teens to adulthood.

6.41 Through adolescence, peers have an increasing influence and parents a lessening influence. Adolescents’ evaluation of their social and personal worth is strongly influenced by what their peers think about them. Studies have shown adolescents to be hypersensitive to social isolation, so much so that going along with peers in order to avoid social risk, even if it means taking health and legal risks, might be seen as the rational choice because it reduces the possibility of social exclusion (Blakemore, 2018).

Role of sex hormones in brain maturation

6.42 There is increasing evidence that the changes in brain maturation described above are driven by a combination of chronological age and sex hormones released through puberty (Goddings et al., 2019; Ravindranath et al., 2022; Sisk & Zehr, 2005). Sex hormones are also responsible for increasing divergence in the structure of the male and female brain (Beck et al., 2003).

6.43 Some researchers have suggested there may be a ‘critical period’ in adolescence for the development of more complex thinking and analytical processes (Baxendale, 2024; Larsen & Luna, 2018), and more work is needed to clarify this.

6.44 In summary, childhood, adolescence and young adulthood are dynamic developmental periods for gender expression, cognitive development and overall brain maturation, and at the same time, young people are having to navigate an increasingly complex world. This important developmental backdrop needs to be taken into account when thinking about how gender incongruence may develop in any one individual and how best to address it.



7. Growing up in the 2000s

7.1 A generation is a group of people who share similar birth years, life experiences and cultural influences. Every generation encounters new experiences, advances, technologies, challenges and stressors that have a profound effect on their behaviours, attitudes and beliefs.

7.2 It may appear somewhat simplistic to divide people by birth year, but this is a helpful way of understanding how perspectives, as well as health and illness, can be shaped by major world events (most recently the Covid-19 pandemic), as well as social and economic conditions.

7.3 Generation Z is the generation in which the numbers seeking support from the NHS around their gender identity have increased, so it is important to have some understanding of their experiences and influences.

7.4 They are defined as those who were born between 1995 and 2009 and are characterised by their digital nativism (proficiency in using technology and social media) and unique characteristics such as being entrepreneurial, socially conscious, pragmatic and diverse (Jayatissa, 2023).

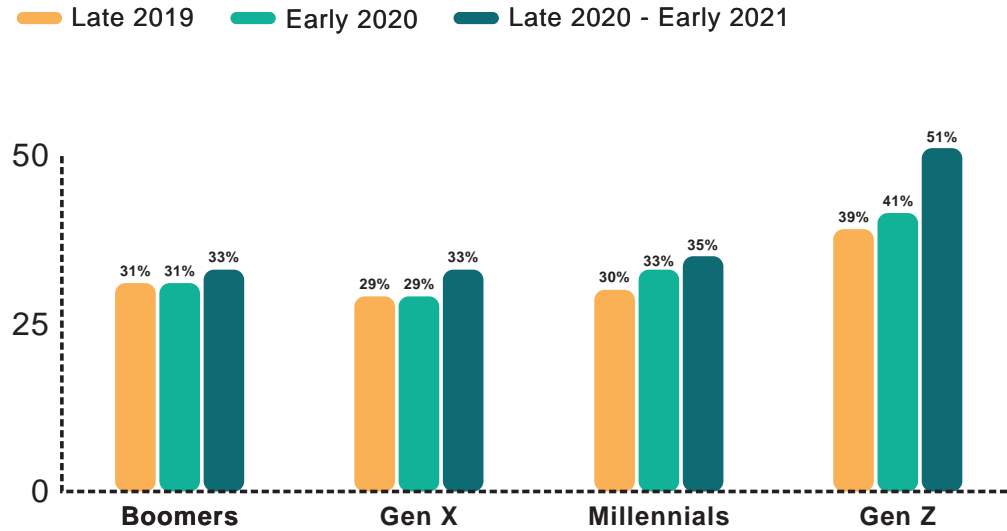
7.5 In terms of broader context, Generation Z and Generation Alpha (those born since 2010) have grown up through a global recession, concerns about climate change, and most recently the Covid-19 pandemic. Global connectivity has meant that as well the advantages of international peer networks, they are much more exposed to worries about global threats.

Generational beliefs and gender identity

7.6 Generation Z and some younger Millennials (Generation Y) generally have different beliefs about the fluidity and mutability of gender than older generations. Attitudes have changed at speed, such that within a 6-month period between early 2020 and late 2020/early 2021 Generation Z adults surveyed in the USA became the first generation in which the majority responded negatively to the statement “there are only two genders, male and female” (Twenge, 2023).

7.7 There are also generational differences in the numbers of young adults reporting that their experienced gender does not align with their birth-registered sex. Based on US Census data, in 2021-2022, 5.6% of Generation Z adults identified as transgender or non-binary, compared to 2.4% of Millennials and 1.5% of Generation X.

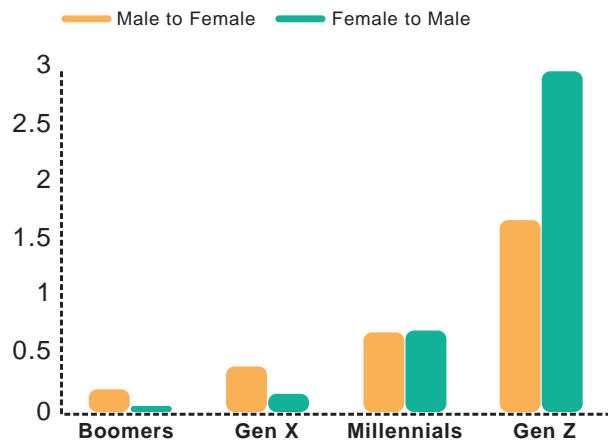
Figure 20: Percentage of U.S. adults who believe there are more than two genders, by generation 2019-2021



Source: Adapted from Twenge, J. M. (2023). *Generations: The real differences between gen Z, millennials, gen X, boomers, and silents - and what they mean for America's future*. Atria Books.

NB: Shows percent who disagree with the statement "There are only two genders, male and female." Late 2019 data were collected July 18 to December 26; early 2020 data were collected January 2 to June 25; late 2020-early 2021 data were collected July 2, 2020 to January 12, 2021.

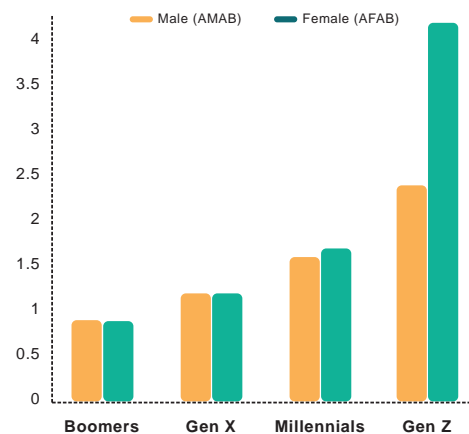
Figure 21: Percent of U.S. adults identifying as transgender, by sex assigned at birth and generation, 2021-2022



Source: Adapted from Twenge, J. M. (2023). *Generations: The real differences between gen Z, millennials, gen X, boomers, and silents - and what they mean for America's future*. Atria Books.

NB: Data collected between July 21, 2021, and October 17, 2022. Terms are from the BRFSS survey, although they are increasingly considered outdated and are replaced with transgender women and transgender men, respectively.

Figure 22: Percent of U.S. adults identifying as nonbinary, by sex assigned at birth and generation, 2021-2022



Source: Adapted from Twenge, J. M. (2023). *Generations: The real differences between gen Z, millennials, gen X, boomers, and silents - and what they mean for America's future*. Atria Books.

NB: Data collected between July 21, 2021 and October 17, 2022. AMAB = assigned male at birth; AFAB = assigned female at birth.

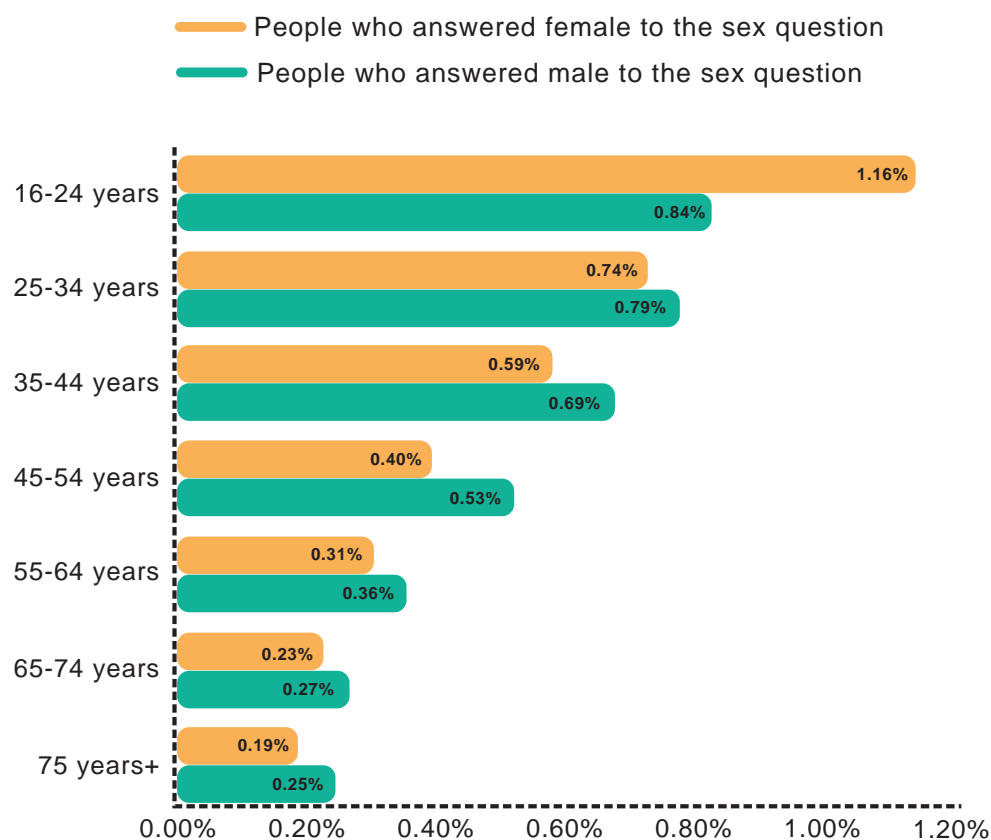
7.8 In common with other trends documented internationally, the 2022 UK census (Office for National Statistics, 2023a) reported that the group with the highest percentage (1.16%) identifying as transgender (defined as gender different from that registered at birth) was birth-registered females aged 16-24. This was the only age group in which the number of birth-registered females identifying as trans exceeded the number of birth-registered males identifying as trans.

7.9 Changes in beliefs about gender identity in Generation Z have led to much more flexible thinking about how gender is expressed, and

a move away from gender stereotypes. Young people within Generation Z, as well as younger Millennials, are much more open to experiment with gender expression than previous generations.

7.10 Many of these young people will not require any input from the NHS. They may see themselves as being anywhere on a spectrum from gender non-conforming through to binary trans. Many will remain fluid in their gender identity for an extended period. Some will partially or fully socially transition, but not seek medical intervention.

Figure 23: Percentage of usual residents aged 16 years and over who identified as trans by sex and age, England and Wales, 2021



Source: Office for National Statistics. (2023b, January 25). *Gender identity: age and sex, England and Wales: Census 2021*. Contains public sector information licensed under the [Open Government Licence v3.0](#).

Online stressors and harm

7.11 Generation Z and Generation Alpha (the generation born since 2010) have grown up with unprecedented online access. This has huge advantages, but also brings new risks and challenges. Access to the online world has given children and young people learning resources, global information and methods of communication unavailable to previous generations, but it has also made them vulnerable to new dangers.

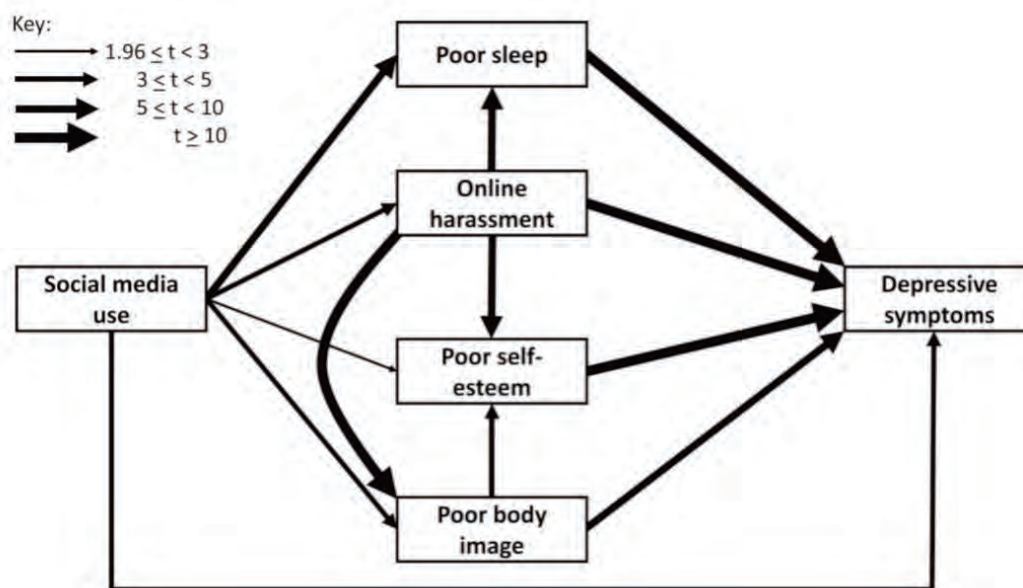
7.12 The Millennium Cohort Study (MCS) is a UK nationally representative prospective cohort study of children born into 19,244 families between September 2000 and January 2002. A study (Kelly et al., 2018) used this data to examine the relationship between social media use and mental health for 14-year-olds within the cohort (10,904 individuals):

- girls reported more hours of social media use than boys; 43% of girls used social media for three or more hours per day compared with 22% of boys.

- girls were more likely to be involved in online harassment as a victim or perpetrator (38.7% versus 25.1% respectively).
- girls were more likely to have low self-esteem (12.8% versus 8.9% of boys), to have body weight dissatisfaction (78.2% versus 68.3% of boys) and to be unhappy with their appearance (15.4% versus 11.8% of boys).
- girls were more likely to report fewer hours of sleep than boys and to report experiencing disrupted sleep often (27.6% versus 20.2%) or most of the time.

7.13 On average, girls had higher depressive symptom scores compared with boys. Online harassment, poor sleep quality and quantity, poor self-esteem and body image were all strongly associated with depressive symptom scores. Figure 24 illustrates the relationship between these different factors. The thickness of the arrows shows the strength of the relationships.

Figure 24: Social media use and depressive symptoms - summary of path analysis



Kelly, Y., Zilanawala, A., Booker, C., & Sacker, A. (2018). Social Media Use and Adolescent Mental Health: Findings from the UK millennium cohort study. *EClinicalMedicine*, 6, 59–68. <https://doi.org/10.1016/j.eclinm.2018.12.005> © 2018 Published by Elsevier Ltd. under the [Creative Commons CC-BY-NC-ND](#) license.

NB: The thickness of the arrow, shows the strength of the relationships.

7.14 As social media use increased from 0 to 5 or more hours a day, there was a stepwise increase in depressive symptom scores and the proportion of young people with clinically relevant symptoms (Kelly et al., 2018).

7.15 A systematic review of 20 studies found that use of social media was associated with body image concerns and disordered eating (Holland & Tiggermann, 2016). Numerous other studies implicate smartphone and social media use in mental distress and suicidality among young people, particularly girls, with a clear dose-response relationship (Abi-Jaoude et al., 2020); that is, the more hours spent online the greater the effect. The mediating effects of social media on poor sleep, poor body image and cyberbullying are common themes across much of the literature.

Access to sexually explicit content

7.16 The Children's Commissioner's report in 2023 (Children's Commissioner, 2023) found that pornography is so widespread and normalised that children cannot 'opt out'. The average age when children first see pornography is 13, but 10% have seen it by age 9, and 27% by 11. The pornography that they are exposed to is frequently violent, depicting coercive, degrading or pain-inducing acts. Younger exposure had a negative impact on self-esteem.

7.17 Young people may passively stumble on pornography online, receive explicit images from people they know and, by the age of 16-21, 58% of boys and 42% of girls were actively seeking out pornographic material.

7.18 Young people aged 16-21 were more likely than not to assume that girls expect or enjoy sex involving physical aggression. Among all respondents, 47% stated that girls 'expect' sex to involve physical aggression such as airway restriction or slapping, a further 42% stated that most girls 'enjoy' acts of sexual aggression. A greater proportion of young people stated that girls 'expect' or 'enjoy' aggressive sex than boys do.

7.19 Several longitudinal studies have found that adolescent pornography consumption is associated with subsequent increased sexual, relational and body dissatisfaction (Hanson, 2020).

7.20 Research commentators recommend more investigation into consumption of online pornography and gender dysphoria is needed. Some researchers (Nadrowski, 2023) suggest that exploration with gender-questioning youth should include consideration of their engagement with pornographic content.

Mental health in children and adolescents

7.21 The striking increase in young people presenting with gender incongruence/dysphoria needs to be considered within the context of poor mental health and emotional distress amongst the broader adolescent population, particularly given their high rates of co-existing mental health problems and neurodiversity.

7.22 Internationally, there have been increasing concerns about the mental health of Generation Z. The reasons for this are highly speculative, although there is ongoing debate about the contribution of excessive smartphone use and social media as discussed above.

7.23 The Review spoke to a wide range of mental health professionals about their observations of rising mental health presentations across the child and adolescent population, and reviewed some of the available UK data.

7.24 UK national surveys between 1999 and 2017 show that there has been a substantial increase in rates of mental health problems in child and adolescent populations, with increased anxiety and depression being most evident in teenage girls. In 2014, there was a marked increase in young women aged 16-24 presenting with anxiety, depression and self-harm (NHS Digital, 2018).

7.25 The prevalence of ‘probable mental health disorder’ in children aged 8-16 years rose from 12.5% in 2017 to 20.3% in 2023. In young people aged 17-19 years, rates increased from 10.1% in 2017 to 23.3% in 2023 (NHS Digital, 2023).

7.26 Some conditions (for example, eating disorders) have increased more than others, particularly in girls and young women (Table 5).

7.27 Studies of rates of self-harm have shown similar increases. For example, between 2011 and 2014 there was an almost 70% increase in young girls between 13 and 16 years old presenting with self-harm, which was not paralleled in boys or in other age groups. Rates of self-harm in 13 and 19 year old girls were elevated throughout compared to boys (Morgan et al., 2017).

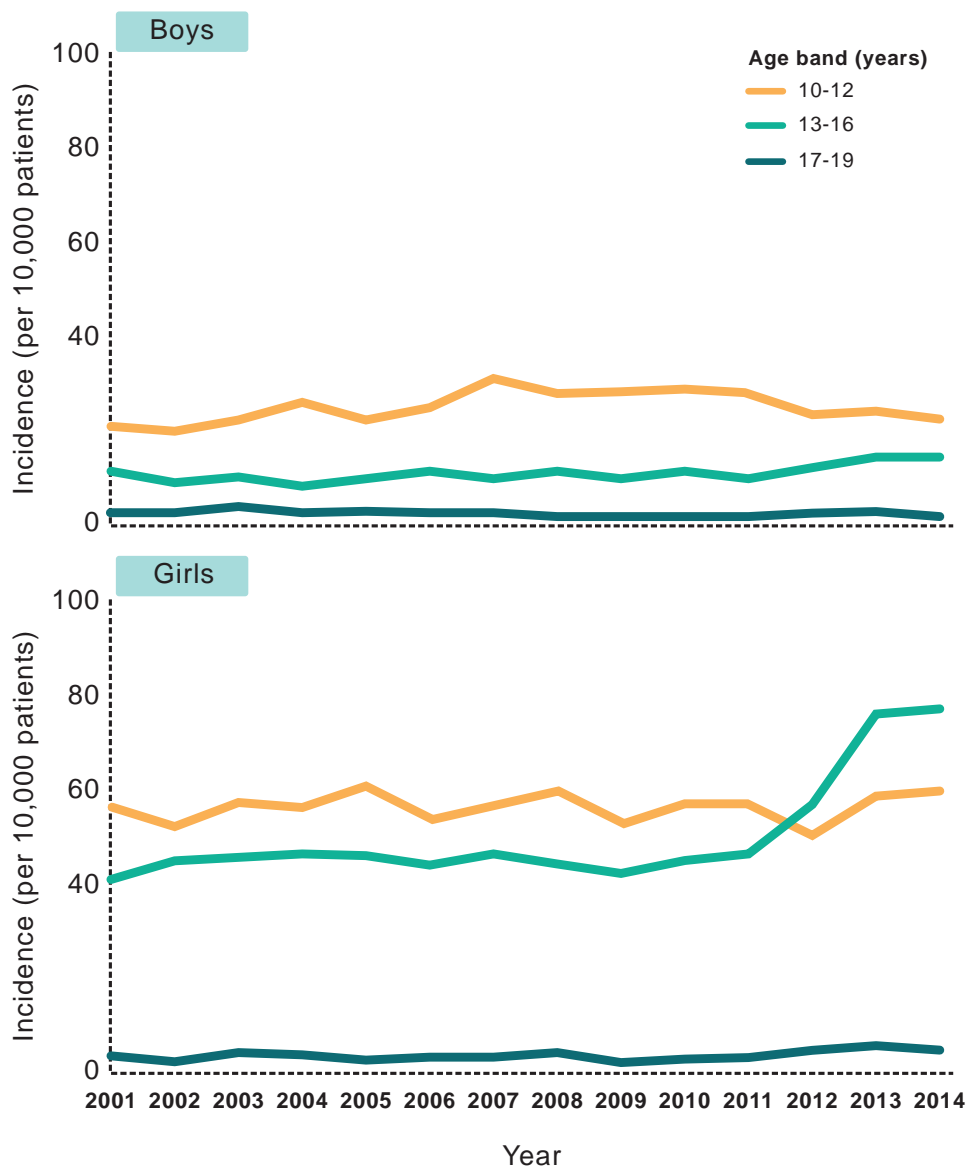
7.28 The increase in presentations to gender clinics has to some degree paralleled this deterioration in child and adolescent mental health. Mental health problems have risen in both boys and girls, but have been most striking in girls and young women. In addition to increasing prevalence of depression and anxiety, presentations of eating disorders and self-harm have increased since the Covid-19 pandemic (Trafford et al., 2023).

Table 5: Percentage of children and young people with an eating disorder, by age and sex, 2017 and 2023

	11 - 16-YEAR OLDS			17 - 19-YEAR OLDS		
	BOYS %	GIRLS %	ALL %	YOUNG MEN %	YOUNG WOMEN %	ALL %
2017	0.2	0.9	0.5	0	1.6	0.8
2023	1.0	4.3	2.6	5.1	20.8	12.5

Source: NHS Digital (2023, November 21). *Mental Health of Children and Young People in England, 2023 - wave 4 follow up to the 2017 survey*.

Figure 25: Temporal trends in annual age specific self-harm incidence stratified by sex, 2001-2014



Source: Reproduced from Morgan, C., Webb, R. T., Carr, M. J., Kontopantelis, E., Green, J., Chew-Graham, C. A., Kapur, N., & Ashcroft, D. M. (2017). Incidence, clinical management, and mortality risk following self harm among children and adolescents: Cohort study in primary care. *BMJ*. <https://doi.org/10.1136/bmj.j4351> with permission from BMJ Publishing Group Ltd.

NB: Standardised by index of multiple deprivation fifth and region of residence.

7.29 As well as the issues highlighted above, clinicians working in the NHS have seen increased rates of some more specialist mental health conditions such as functional tic-like behaviours, BDD and functional neurological conditions. These changes have been observed internationally, and preceded Covid-19, although some got worse during the pandemic.

7.30 Many young people with gender dysphoria are presenting with combinations of the above conditions. Sometimes the associated conditions pre-date the gender dysphoria and sometimes they follow it. The complex interplay between these issues is not well understood.



8. Possible factors influencing the change in patient profile

8.1 More than two decades ago, Cohen-Kettenis and Gooren (1999) wrote: “Adult gender identity and gender role behaviour develop gradually over a long period of time and are influenced by multiple, interacting factors, active at different developmental periods... Our understanding of this process has increased considerably, but a large part of it still remains enigmatic”. This quote still resonates in 2024.

8.2 This report has described the very altered profile of the children and young people who are now being seen in NHS gender services. To inform how to best care for them, it is essential to understand more about the factors that are influencing the change in patient profile.

8.3 The change in the profile (with the majority now being adolescent, birth-registered females) needs to be considered in the context of changes in the wider population discussed in Chapter 7.

8.4 This chapter explores the evidence for biological factors in the development of a transgender identity and discusses the more dynamic contemporary psychosocial factors.

Biological factors

8.5 For many centuries transgender people have been predominantly trans females, commonly presenting in adulthood. Some transgender adults describe being aware of their gender incongruence and/or being gender dysphoric from childhood.

8.6 The search for a biological cause for gender incongruence is important to some transgender people and for some clinicians it is seen to strengthen the justification that medical treatment is warranted.

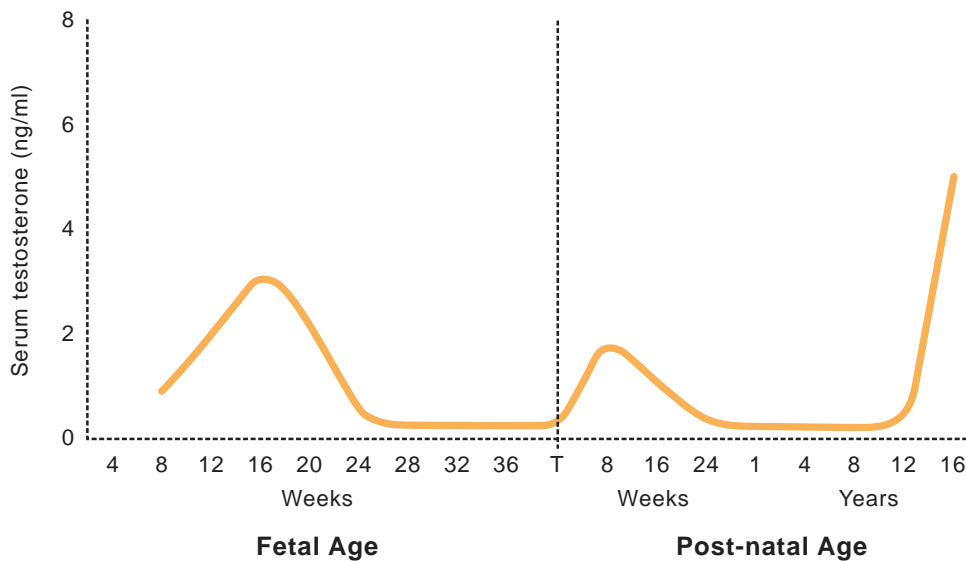
8.7 There are three main areas of research relating to biological factors: prenatal and/or pubertal hormone exposure; genetics (twin studies); and brain structure (imaging studies).

Prenatal and/or pubertal hormone exposure

8.8 Some authors have hypothesised that because sexual differentiation of the genitals takes place in the first two months of pregnancy but sexual differentiation of the brain only starts in the second half of pregnancy, these two processes can be influenced independently, which may result in gender incongruence (Swaab & Garcia-Falgueras, 2009).

8.9 As discussed previously, most of the evidence about the influence of prenatal hormones comes from the study of people with DSD. That evidence suggests that prenatal hormones have a large effect on gender role behaviours, a moderate effect on sexual orientation and a small effect on gender identity.

8.10 The second potential period when hormones may influence gender expression is puberty. There is evidence that masculinising/feminising hormone treatments alter brain structure (Ristori et al., 2020). The neuropsychological impact of arresting pubertal development with puberty blockers remains poorly understood (Baxendale, 2024).

Figure 26: Concentrations of serum testosterone in males from conception to puberty.

Source: Adapted from Hines, M. (2020b). Neuroscience and sex/gender: Looking back and forward. *The Journal of Neuroscience*, 40(1), 37–43. <https://doi.org/10.1523/jneurosci.0750-19.2019> under: <https://creativecommons.org/licenses/by/4.0/>

8.11 However, there is still no clear evidence that altered hormonal levels prenatally or during puberty are responsible for the development of gender incongruence, apart from in those with DSD, and this is a difficult area in which to test hypotheses.

Genetics (twin studies)

8.12 As identical twins have identical genes, when a single gene is responsible for a characteristic (for example, blood group), the twins will always have the same outcome (they will both have the same blood group). Non-identical twins are like any other siblings; they only share approximately 50% of their genes, so they may have different blood groups. Twin studies compare how often identical twins are concordant for a condition (that is, both have the same condition), compared to non-identical twins. If a condition is strongly genetically determined, identical twins will have a high level of concordance compared to non-identical twins.

8.13 Twin studies in gender identity are complicated; until recently, most of the large studies just looked at masculinity or femininity and did not include diagnosis of gender incongruence or dysphoria. The few studies that have included diagnosis primarily relied on parental report, did not follow through into adulthood and/or had small sample size. The older studies suggested that identical twins were more likely to manifest the same gender identity than non-identical twins, suggesting some genetic influence (Klink & Den Heijer, 2014).

8.14 In contrast, a more recent paper (Karamanis et al., 2022) looked at a large register-based population in Sweden over the period 2001 to 2016 and found no evidence for genetic influence in individuals who had been formally diagnosed with gender dysphoria and/or had gender-affirming treatment. The most important finding was that non-identical twins of different sex were much more likely than ordinary siblings to be concordant for gender

dysphoria (37% compared to 0.16%). One explanation is that environmental influences during pregnancy are a more likely explanation for the development of gender dysphoria than genetics. This finding therefore gives more credence to the theories about sex hormone exposure in the womb mentioned above, than to genetic factors.

Brain structure

8.15 Researchers have also investigated whether there are differences in brain structure in people with gender incongruence. Studies that look at brain structure, either from post-mortem evidence or neuroimaging, are complex. To date, some evidence has suggested that the brains of transgender females have some commonalities with the brains of birth-registered females in terms of the size of certain structures. However, as there are large overlaps in the characteristics of male and female brains it is not possible to tell if a brain is male or a female (Steensma et al., 2013a).

8.16 Notwithstanding the problems in determining how ‘male’ or ‘female’ a brain is outside of extremely large group averages, some studies do suggest that the brains of male-attracted transgender females have changes in a female direction, whilst those who are female-attracted do not. So, if there are differences, they may be related to sexuality rather than gender identity (Steensma et al, 2013a).

8.17 A further issue is that brains are not static. They change and adapt over time in response to various activities like learning a new skill, meditation, exercise or stress. This is known as brain plasticity. Thus, even if it were possible to reliably observe any differences in the brain, these could be a result of rather than a cause of a transgender identity.

8.18 Interpretation of studies on the brain are also problematic for a number of other reasons. For example, most studies:

- have examined brains of transgender females and not of transgender males
- are based on small numbers and have not been reliably replicated
- have examined brain structures after treatment with feminising hormones (rather than before and after treatment), so changes could be caused by treatment rather than any inherent differences.

8.19 More recently there has been a shift from studies that examine whether brains of transgender individuals are more ‘male’ or ‘female’ to trying to determine whether there is a unique ‘transgender brain’ (Mueller, 2021). To examine this, researchers combined the results of previous imaging studies in one ‘mega’ analysis. The researchers reported that “rather than being merely shifted towards either end of the male-female spectrum, transgender persons seem to present with their own unique brain phenotype”. However, this type of analysis commonly generates false-positive findings. Given that this is such a heterogeneous population, this would be equivalent to suggesting that all neurodiverse people had the same unique brain, which does not seem to be a plausible hypothesis.

8.20 As imaging technology continues to advance, brain studies will remain a rich source of further information. However, to date, research in this area has not reliably identified brain changes directly linked to gender incongruence. Even if they could, this might not provide information on causality.

Summary of biological evidence

8.21 While there is no clear evidence for a straightforward biological cause for gender incongruence, it is possible that some individuals have a biological predisposition, which may make them more likely to develop gender incongruence.

8.22 Expressions of being human vary greatly in how much biological versus psychological versus social (environment) causes contribute. As an unrelated but illustrative example to help explain this, people who carry the BRCA gene have a high genetic risk of breast cancer, whereas for those without the BRCA gene and with no family history, factors like smoking, obesity and lack of exercise play a much greater part. In other words, the end result is the same, but the causes are different.

8.23 For children and young people with gender incongruence, 'innate' or biological factors may play a part in some individuals, in ways that are not yet understood, and in others psychosocial factors, including life experiences, societal and cultural influences, may be more important. Since biological factors have not changed in the last 10 years it is necessary to look at other possible reasons for the increase in referrals and the disproportionate representation of birth-registered females.

Psychosocial factors

8.24 Various explanations have been advanced for the increase in predominantly birth-registered females presenting to gender services in early adolescence often with complex presentations, and/or additional mental health problems and/or neurodiversity:

- **Societal acceptance:** The proposition is that greater acceptance of transgender identities has allowed young people to come out more easily and the increased numbers now reflects the true prevalence of gender incongruence within society.
- **Changes in concepts of gender and sexuality:** These might include a change in expressions of sexuality versus gender and a wider spectrum of expression (for example, non-binary and other gender identities that are more common presentations in birth-registered females).
- **Manifestation of broader mental health challenges:** For example, in the same way that distress can manifest through eating disorders or depression, it could also show itself through gender-related distress.
- **Peer and socio-cultural influence:** For example, the influence of media and changing generational perceptions. This is potentially the most contested explanation, with the term 'social contagion' causing particular distress to some in the trans community.
- **Availability of puberty blockers:** The change in the trajectory of the referral curve across many countries coincided with the implementation of the Dutch approach, starting first in the Netherlands and then similarly adopted in other countries.

8.25 Simplistic explanations of either kind (“all trans people are born that way” or “it’s all social contagion”) do not consider the wide range of factors that can lead young people to present with gender-related distress and undervalues their experiences.

Societal acceptance

8.26 Although it is certainly the case that there is much greater acceptance of trans identities, particularly amongst Generation Z, and this may account for some of the increase in numbers, this is not an adequate explanation for the overall phenomenon. Arguments that counter this explanation include:

- the exponential increase in numbers within a 5-year timeframe is very much faster than would be expected for the normal evolution of acceptance of a minority group;
- the rapid increase in numbers presenting to gender services across Western populations;
- the change in prevalence from birth-registered males to birth-registered females. The current profile of transgender presentations is unlike that in any prior historical period;
- the sharp differences in the numbers identifying as transgender and non-binary and presenting to gender services in Generation Z and younger Millennials compared to those over the age of 25-30. It would be expected that older adults would also show some signal of distress regarding their gender, even if they felt unable to ‘come out’;
- the failure to explain the increase in complex presentations.

Changes in concepts of gender and sexuality

8.27 The relationship between sexuality and gender identity is complex and contested. A transgender identity does not determine an individual’s sexuality. However, in the context of the Review, it is important to consider the relationship between sexual identity and gender identity given that sexuality contributes to a person’s sense of identity, and both may be fluid during adolescence.

8.28 In the original Dutch study (de Vries et al., 2011b), 89% of the 70 patients were same-sex attracted to their birth-registered sex, with most of the others being bisexual. Only one patient was heterosexual.

8.29 In contrast, in a detailed study of young people with ASD and gender dysphoria (de Vries et al., 2010), it was noted that “while almost all adolescents with GID [gender identity dysphoria] are sexually attracted to individuals of their birth sex, the majority of the gender dysphoric adolescents with ASD were sexually attracted to partners of the other sex”.

8.30 A paper from the GIDS service in 2016 (Holt et al., 2016) reported sexual orientation in 57% (97) of a clinic sample of patients over 12 years of age for whom this information was available. Of the birth-registered females, 68% were attracted to females, 21% were bisexual, 9% were attracted to males and 2% were asexual. Of the birth-registered males, 42% were attracted to males, 39% were bisexual and 19% were attracted to females.

8.31 The Review has not been able to obtain recent data relating to the sexual orientation of the GIDS patient cohort. When asked, mixed responses were given by GIDS clinicians about the extent to which they explore sexuality with patients seen in the service, and this may reflect differences in practice.

8.32 In terms of narratives and case histories, the Review received several reports from parents of birth-registered females that their child had been through a period of trans identification before recognising that they were cisgender same-sex attracted. Similar narratives were heard from cisgender adults (some same sex-attracted and some heterosexual) regarding early experiences of gender-questioning.

8.33 Clinicians and parents reported that gay students are still being stigmatised and bullied in school and there is sometimes a perception that there is less validation for them than for trans pupils. However, the Review also heard multiple testimonies attesting that having a diverse gender identity is a difficult path with young people subjected to bullying and abuse.

8.34 It is widely accepted that exposure to sexuality is happening at a younger age. The impact of this on young people's understanding of their sexuality and/or gender identity is unclear.

8.35 In some strictly religious cultures, being transgender is seen as preferable to being same-sex attracted as it is then perceived as a physical rather than a psychological issue.

8.36 It is common in adolescence to experience same-sex attraction and not to conform to gender stereotypes. In making sense of these feelings young people are now having to navigate an increasingly complex interplay between sex and gender.

8.37 In reality, for any individual young person, there will be different socio-cultural influences that impact on their understanding of both their gender and sexual identity, and this is an area that warrants better exploration and understanding.

Manifestation of broader mental health challenges

8.38 As described previously, rates of mental ill health in the general population of children and young people, particularly in girls and young women, have increased over the past decade. This parallels the increase in numbers of children and young people seeking support from NHS gender clinics.

8.39 The gender clinic referred population has high rates of mental health diagnoses, neurodiversity and adverse childhood experiences (ACEs). At the same time, young people now seem more likely to mention gender identity when they attend mental health services.

8.40 Early audits and research suggest that ACEs are a predisposing factor. This was demonstrated from the earliest audit of the GIDS service (Di Ceglie et al., 2002) and in the systematic review (Taylor et al: Patient characteristics)

8.41 Some people rebut the notion that trans identity may be secondary to mental health problems, and instead suggest that the mental health problems that are observed are a response to minority stress.

8.42 The association is likely to be complex and bidirectional - that is, in some individuals, preceding mental ill health (such as anxiety, depression, OCD, eating disorders), may result in uncertainty around gender identity and therefore contribute to a presentation of gender-related distress. In such circumstances, treating the mental health disorder and strengthening an individual's sense of self may help to address some issues relating to gender identity. For other individuals, gender-related distress may

be the primary concern and living with this distress may be the cause of subsequent mental ill health. Alternatively, both sets of conditions may be associated with and influenced by other factors, including experiences of neurodiversity and trauma.

8.43 There are well established effective treatments for many common mental health disorders. Individuals presenting with gender dysphoria should be able to access these if required, including those with neurodevelopmental differences who are frequently disadvantaged in being able to access mental health services.

8.44 Diagnosis and treatment of mental ill health in a young person with gender incongruence/dysphoria should not be a barrier to their gender issues being considered and evaluated in parallel.

Peer and socio-cultural influences

8.45 Sources of information for young people are predominantly online and peer-to-peer, and this applies to multiple aspects of their lives.

8.46 The generational changes in understanding and beliefs about the mutability of gender form the basis for many young people's understanding of their own experiences and the experiences of those around them.

8.47 It is the norm that all experiences of health and illness are understood through the norms and beliefs of an individual's trusted social group. Thus, it is more likely that bodily discomfort, mental distress or perceived differences from peers may be interpreted through this cultural lens.

8.48 More specifically, gender-questioning young people and their parents have spoken to the Review about online information that describes normal adolescent discomfort as a possible sign

of being trans and that particular influencers have had a substantial impact on their child's beliefs and understanding of their gender.

8.49 The Review's focus groups with gender diverse young people found that "Young people struggle to find trusted sources of information, favouring lived experience social media accounts over mainstream news outlets".

"I've always found that talking to people who have life experience is the best, either on like forums or like places like Reddit or on social media and other places"

"A lot of trans people make YouTube videos which I think is a [major] informational source for a lot of people, and that's mainly where I get my information from, not so much professional services."

"I have to spend time picking apart information and assessing it. I feel like I always have to be sceptical of the information I read, and really think about why they are writing it."

**Young people
Lived experience focus groups**

Availability of puberty blockers

8.50 The dramatic increase in presentations to NHS gender clinics from 2014, as well as in several other countries, coincided with puberty blockers being made available off protocol and to a wider group of young people. The only country with an earlier acceleration in referrals is the Netherlands, where the Dutch protocol was developed.

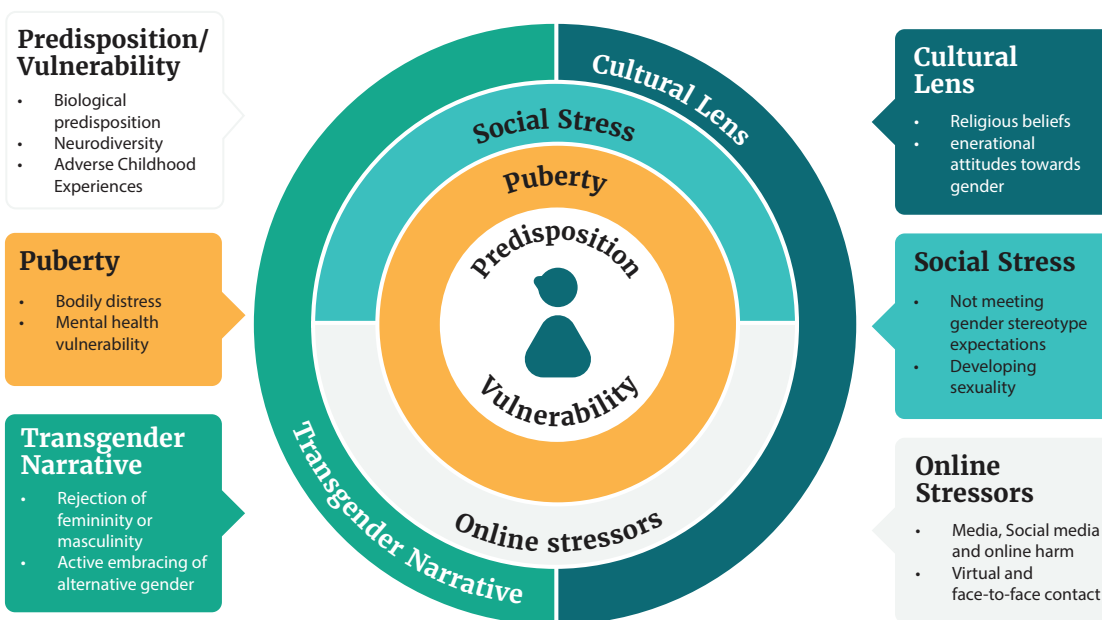
8.51 It is not possible to attribute causality in either direction to this association, but it remains a possibility that a lower threshold for medicalisation has had an influence on the number of young people seeking this intervention.

Conclusion

8.52 There is broad agreement that gender incongruence is a result of a complex interplay between biological, psychological and social factors. This 'biopsychosocial' model for causation is thought to account for many aspects of human expression and experience including intelligence, athletic ability, life expectancy, depression and heart disease.

8.53 Figure 27 demonstrates how in any one individual, gender incongruence and/or dysphoria may be a result of one or two factors, or it may result from a series of factors that underpin a young person's experience and sense of self.

Figure 27: Complex interplay between biological, psychological and social factors



Presentation will vary with each individual



Illustrative examples

8.54 Although we do not have definitive evidence about biological causes of gender incongruence it may be that some people have a biological predisposition. However, other psychological, personal and social factors will have a bearing on how gender identity evolves and is expressed.

8.55 In later childhood and into early puberty, online experience may have an effect on sense of self and expectations of puberty and of gender. As discussed in relation to adolescent development, this is a time where the drive to fit in with peers is particularly strong. Young people who are already feeling ‘different’ may have that sense exacerbated if they do not fit in with the demonstrations of masculinity and femininity they are exposed to socially and/or online.

8.56 Peer influence during this stage of life is very powerful. As well as the influence of social media, the Review has heard accounts of female students forming intense friendships with other gender-questioning or transgender students at school, and then identifying as trans themselves.

8.57 It is the norm for people to view their experiences of life events, health and illness through their own cultural lens and personal beliefs. Cultural norms in younger people might impact how they interpret their personal, sexual and gender identity.

8.58 Puberty is an intense period of rapid change and can be a difficult process, where young people are vulnerable to mental health problems, particularly girls. Unwelcome bodily changes and experiences can be uncomfortable for all young people, but this can be particularly distressing for young neurodiverse people who may struggle with the sensory changes.

8.59 The data on young people’s mental health, social media use and increased risks associated with online harm give an appreciation and understanding that going through the teenage years is increasingly difficult, with stressors that previous generations did not face. This can be a time when mental distress can present through physical manifestations such as eating disorders or body dysmorphic disorders. It is likely that for some young people this presents as gender-related distress.

8.60 A study followed 2,772 adolescents from age 11 to 26. Gender non-contentedness (as defined by the question “I wish to be of the opposite sex”) was high in early adolescence, reduced into early 20s, and was associated with a poorer self-concept and mental health throughout development. It was also more often associated with same-sex attraction when compared to those who did not have gender non-contentedness (Rawee et al., 2024).

8.61 There is no single explanation for the increase in prevalence of gender incongruence or the change in case-mix of those being referred to gender services. Pragmatically all the above explanations for the observed changes in this heterogeneous population are likely to be true to a greater or lesser extent, but for any individual a different mix of factors will apply.

8.62 Working through this complex multi-layered personal development with the young person is likely to take some time, and the role of the clinical team is to help them address some of these complex issues so that they can better understand their gender identity and evaluate the options available to them.



Clinical approach & clinical management



This section looks at clinical approaches and clinical management. It seeks to address the following areas on which the Review has been asked to provide recommendations:

- clinical management approaches at each point of the specialised pathway of care from assessment to discharge, including a description of objectives, expected benefits and expected outcomes for each clinical intervention in the pathway;
- best clinical approach for individuals with other complex presentations;
- the use of gonadotropin-releasing hormone analogues and gender affirming drugs.

Any treatment recommendations will include a description of treatment objectives, expected benefits and expected outcomes, and potential risks, harms and effects to the individual.

Where relevant, each chapter summarises the Review's commissioned research, other published work and insights from engagement with service users, parents/carers, clinicians and others.

9. International practice and guidelines

9.1 There is understandable public focus on young people who access medical interventions. However, from the outset, the Review has tried to understand what happens for all gender-questioning children and young people seeking NHS support, including those who do not go on to a medical pathway.

9.2 The question is: what is the best way to address, support and manage the whole population of children and young people presenting to services with gender incongruence and/or dysphoria?

9.3 When considering the best clinical approach, the Review first wanted to understand how care is arranged and delivered in other health systems. If good guidance and practice already exists internationally it was important to learn from this and adopt it where appropriate.

9.4 The Review commissioned the University of York to undertake:

- an appraisal and synthesis of available international guidelines (Taylor et al: Guidelines 1: Appraisal; Taylor et al: Guidelines 2: Synthesis)
- an international survey of gender services (Hall et al: Clinic survey)
- a review of published papers on other service models.

9.5 During the lifetime of the Review, it has become apparent that practice is changing

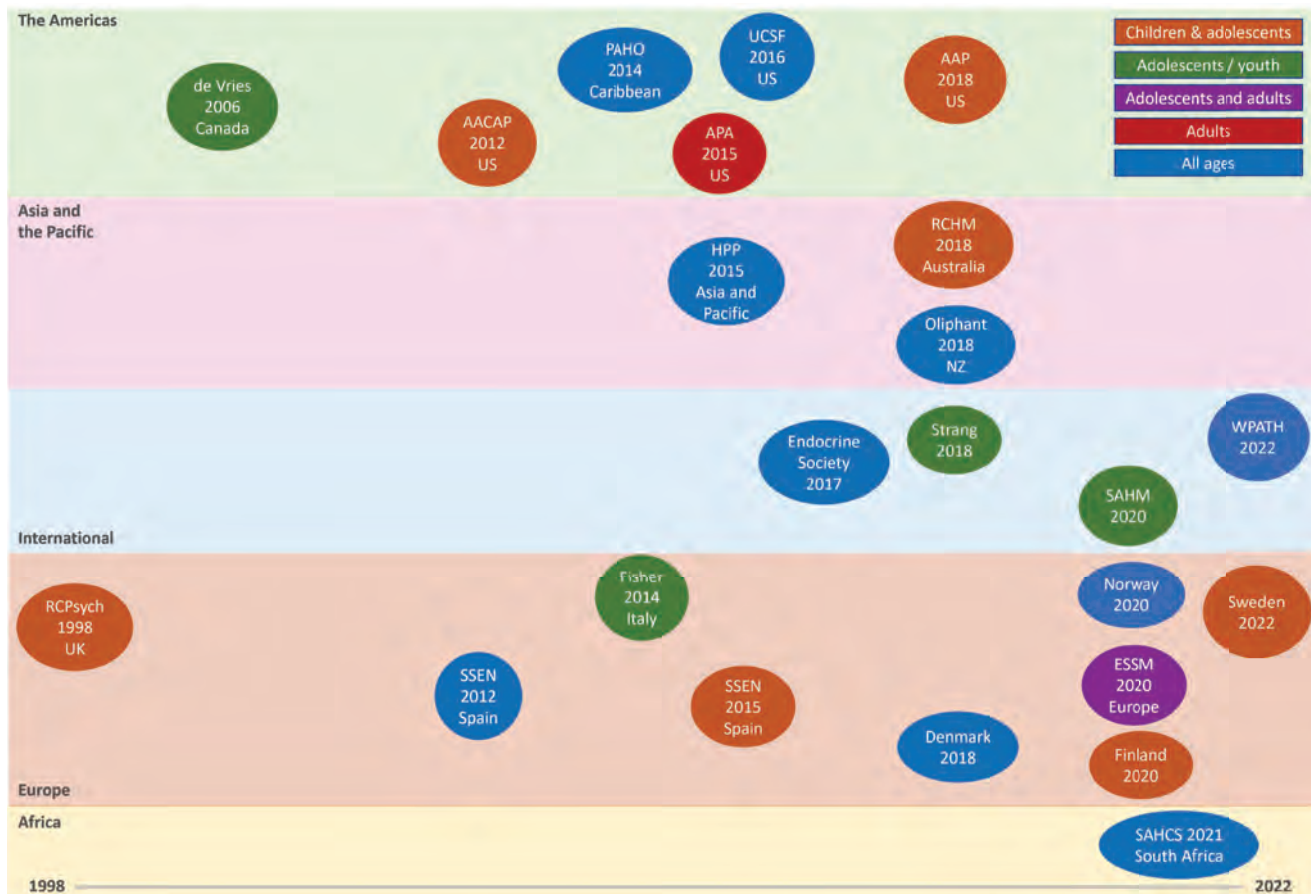
rapidly on the international stage with Nordic countries, and France, as well as some clinics in Australia, taking a more cautious approach to gender-related care for children and young people. The Review's interim report (2022) also advised a more cautious approach for the NHS in England, pending the more comprehensive findings presented in this final report.

Guideline appraisal

9.6 Clinical guidelines are recommendations on how healthcare and other professionals should care for people with specific conditions; for example NICE guidelines in England and SIGN guidelines in Scotland. Recommendations are based on the best available evidence and expert consensus. There are standard methods for analysing the research evidence, with systematic reviews being the highest level of analysis and most trusted way to determine what the available research tells us (see Figure 28).

9.7 A number of guidelines on the care of children and young people with gender incongruence and/or gender dysphoria have been published, some specific to individual countries and some intended for international audiences.

Figure 28: A timeline for the included guidelines by geographical region, country and target population.



Source: Taylor et al: Guidelines 1: Appraisal

NB: AACAP, American Academy of Child and Adolescent Psychiatry; AAP, American Academy of Pediatrics; APA, American Psychological Association; ESSM, European Society for Sexual Medicine; HPP, Health Policy Project; PAHO, Pan American Health Organisation; RCHM, Royal Children's Hospital Melbourne; RCPsych, UK Royal College of Psychiatrists; SAHCS, South African HIV Clinicians Society; SAHM, Society for Adolescent Health and Medicine; SSEN, Spanish Society of Endocrinology and Nutrition; UCSF, University California, San Francisco; WPATh, World Professional Association for Transgender Health.

9.8 The starting point for the Review was to seek an appraisal of these guidelines and determine if some components might be directly transferable to the NHS in England.

9.9 The University of York identified 23 guidelines published between 1998 and 2022 that contained recommendations about children and young people with gender dysphoria (four international, three regional and 16 national):

9.10 The guidelines covered the following key areas of practice:

- care models, principles and practices
- multi-disciplinary team (MDT) composition, roles, competencies, and training
- assessment
- psychosocial care (child and family)
- information, education and advocacy
- social transition
- puberty suppressant hormones
- cross-sex hormones
- surgical interventions
- fertility care
- other interventions (for example, voice therapy, hair removal)
- sexual health and functioning
- physical health and lifestyle.

9.11 The quality of clinical guidelines was assessed using AGREE II (AGREE Next Steps Consortium, 2017), which is the most commonly applied and comprehensively validated appraisal tool. The AGREE II approach considers six domains:

- scope and purpose
- stakeholder involvement
- rigour of development
- clarity of presentation
- applicability
- editorial independence.

9.12 This was followed by an overall assessment of quality and whether a guideline should be recommended for use in practice.

9.13 Rigour of development is an important bedrock of guideline development. It includes systematically searching the evidence, being clear about the link between recommendations and supporting evidence, and ensuring that health benefits, side effects and risks have been considered in formulating the recommendations.

9.14 A 2018 study (Hoffmann-Eßer et al., 2018) looked at which of the AGREE II domains were most influential in the overall assessment scores. The authors found that experienced reviewers were most strongly influenced by rigour of development and editorial independence. This is not a surprising finding. A guideline may be clear in scope, purpose and presentation, and have good stakeholder engagement, but would be hard to recommend for use in practice if there were weaknesses in the development process.

9.15 Of the 23 guidelines identified, four did not provide any information about the development process, so could not be appraised. The remaining guidelines were appraised independently by three reviewers.

Table 6: Critical appraisal domain scores

Guideline ID	Scope and Purpose	Stakeholder involvement	Rigour of development	Clarity of presentation	Applicability	Editorial Independence
AACAP 2012	65	39	44	63	7	31
American Academy of Paediatrics 2018	70	26	12	30	6	69
American Psychological Association 2015	74	74	24	50	18	14
Council for Choices in Healthcare Finland 2020	91	69	51	72	56	0
de Vries 2006	63	31	10	74	17	6
Endocrine Society 2009	65	33	44	70	22	31
Endocrine Society 2017	63	33	42	72	21	92
European Society for Sexual Medicine 2020	63	52	39	70	7	58
Fisher 2014	65	20	12	35	17	44
Health Policy Project 2015	63	63	16	24	33	6
Norwegian Directorate of Health 2020	76	81	30	57	47	17
Oliphant 2018	44	39	12	33	21	0
Pan American Health Organisation 2014	52	44	13	31	21	0
Royal Children's Hospital Melbourne 2018	81	59	19	41	19	14
Society for Adolescent Health and Medicine 2020	41	24	17	41	7	0
South African HIV Clinicians Society 2021	59	59	21	43	24	69
Strang 2018	87	31	18	37	15	19
Swedish National Board of Health & Welfare 2022	91	87	71	83	25	36
UCSF 2016	70	41	23	37	26	0
WPATH 2012	85	61	26	56	17	17
WPATH 2022	83	63	35	56	24	39
≥70%, 31%-69%, ≤30%. AACAP, American Academy of Child & Adolescent Psychiatry; UCSF, University of California, San Francisco; WPATH, World Professional Association for Transgender Health						

Source: Taylor et al: Guidelines 1: Appraisal

9.16 Most guidelines scored well on the scope and purpose domain, but poorly on the rigour of development, applicability and editorial independence domains. Only the Finnish guideline (Council for Choices in Healthcare in Finland, 2020) and Swedish guideline (Swedish National Board of Health and Welfare, 2022) scored above 50% for rigour of development.

9.17 Most of the guidelines were developed by a core group of experts in broader consultation with other professional stakeholders, although there was lack of clarity about how this input was incorporated. Just over half engaged with service users, and again it was unclear how this influenced recommendations.

9.18 Only five guidelines described using a systematic approach to searching for and/or selecting evidence (AACAP 2012, Endocrine Society 2017, Finland 2020, Sweden 2022 and WPATH 2022).

9.19 For many of the guidelines it was difficult to detect what evidence had been reviewed and how this informed development of the recommendations. For example, most of the guidelines described insufficient evidence about the risks and benefits of medical treatment in adolescents, particularly in relation to long-term outcomes. Despite this, many then went on to cite this same evidence to recommend medical treatments.

9.20 Alternatively, they referred to other guidelines that recommend medical treatments as their basis for making the same recommendations. Early versions of two international guidelines, the Endocrine Society 2009 and World Professional Association for Transgender Healthcare (WPATH) 7 guidelines influenced nearly all the other guidelines.

9.21 These two guidelines are also closely interlinked, with WPATH adopting Endocrine Society recommendations, and acting as a co-sponsor and providing input to drafts of the

Endocrine Society guideline. WPATH 8 cited many of the other national and regional guidelines to support some of its recommendations, despite these guidelines having been considerably influenced by WPATH 7. The links between the various guidelines are demonstrated in the graphics in the guideline appraisal paper (Hewitt et al., Guidelines 1: Appraisal).

9.22 The circularity of this approach may explain why there has been an apparent consensus on key areas of practice despite the evidence being poor.

9.23 Only the Swedish and Finnish guidelines differed by linking the lack of robust evidence about medical treatments to a recommendation that treatments should be provided under a research framework or within a research clinic. They are also the only guidelines that have been informed by an ethical review conducted as part of the guideline development. However, these guidelines like others lack clear recommendations regarding certain aspects of practice and would benefit from more detailed guidance regarding implementation of recommendations.

9.24 The guideline appraisal raises serious questions about the reliability of current guidelines. Most guidelines have not followed the international standards for guideline development (AGREE Next Steps Consortium, 2017). Therefore, only the Finnish (2020) and the Swedish (2022) guidelines could be recommended for use in practice.

9.25 Because of the very widespread influence and adoption of the WPATH guidance and the very different approach in the Swedish and Finnish guidelines, some further detail on the link between evidence and recommendations in these guidelines is discussed below.

World Professional Association for Transgender Healthcare (WPATH) 8 guideline (2022)

9.26 The WPATH 8 commentary on adolescence gives a clear account of how dynamic this period of life is in terms of cognitive, emotional, gender and personal development, and how individualised that can be. The guideline also sets out some of the knowns and unknowns about the possible biological contributions to gender incongruence, as well as recent changes in how gender diverse young people present to healthcare services, and the uncertainty regarding how stable or fluid their gender identity may be.

9.27 WPATH commissioned a systematic review to underpin version 8, an approach it had not undertaken for WPATH 7. This systematic review (Baker et al., 2021) found that “hormone therapy was associated with increased quality of life, decreased depression, and decreased anxiety”. However, “certainty in this conclusion is limited by high risk of bias in study designs, small sample sizes, and confounding with other interventions”. The recommendation was that “future studies should investigate the psychological benefits of hormone therapy among larger and more diverse groups of transgender people using study designs that more effectively isolate the effects of hormone treatment”.

9.28 The WPATH 8 narrative on gender-affirming medical treatment for adolescents does not reference its own systematic review, but instead states: “Despite the slowly growing body of evidence supporting the effectiveness of early medical intervention, the number of studies is still low, and there are few outcome studies that follow youth into adulthood. Therefore, a systematic review regarding outcomes of treatment in adolescents is not possible. A short narrative review is provided instead”.

9.29 Within the narrative account the guideline authors cite some of the studies that were already deemed as low quality, with short follow-up periods and variable outcomes, as well as a selected account of detransition rates.

9.30 WPATH 8 concludes in its statement on the use of gender-affirming medical treatment that: “The evolving evidence has shown a clinical benefit for transgender youth who receive their gender-affirming treatments in multidisciplinary gender clinics (de Vries et al., 2014; Kuper et al., 2020; Tollit et al., 2019)”.

- De Vries et al. (2014) is the original study of the Dutch protocol sample, which has marked differences to the population being treated currently, and as discussed had much stricter criteria for treatment.
- Kuper et al. (2020) is a study with a one year follow up that showed very modest change. It fell into the group rated by the University of York research team as too low quality to be included in their synthesis of evidence on masculinising/feminising hormones (Taylor et al: M/F hormones).
- Tollit et al. (2019) is a study protocol and does not include any results.

9.31 The systematic review commissioned by WPATH is referenced in the chapter on WPATH 8 standards as one of several references in support of the statements that “There is strong evidence demonstrating the benefits in quality of life and well-being of gender-affirming treatments, including endocrine and surgical procedures, properly indicated and performed as outlined by the Standards of Care (Version 8), in transgender people in need of these treatments” and “Gender-affirming interventions are based on decades of clinical experience and research; therefore, they are not considered experimental, cosmetic, or for the mere convenience of a patient. They are safe and effective at reducing gender incongruence and gender dysphoria”.

9.32 Clinical consensus is a valid approach to guideline recommendations where the research evidence is inadequate. However, instead of stating that some of its recommendations are based on clinical consensus, WPATH 8 overstates the strength of the evidence in making these recommendations.

Swedish (2022) and Finnish (2020) guidelines

9.33 The Swedish guideline took a different stance to WPATH 8 based on three considerations:

- The change in epidemiology and lack of understanding of the cause of the more recent presentations to gender services.
- The lack of clear data on how frequently detransition or regret occurs in young adults.
- A re-evaluation of the evidence base through its own systematic review, which demonstrated uncertainty about the strength of evidence in favour of gender-affirming care. It was also noted that previous guidelines relied much more heavily on expert opinion rather than on systematic reviews of the evidence.

9.34 Based on the above considerations, the Swedish guideline recommended that medical treatment should follow the original Dutch criteria and should only be given under a research protocol, or in exceptional circumstances.

9.35 The Finnish guideline had reached similar conclusions on the uncertainty of the evidence and proposed extreme caution in relation to the use of puberty blockers in young people under the age of 18, also reverting largely to

the original Dutch entry criteria. The guideline recommended that puberty blockers should be administered under the supervision of the national specialist clinic.

Key points of learning for the NHS

9.36 The University of York has produced a narrative synthesis of the guidelines (Hewitt et al: Guidelines 2: Synthesis). Relevant information from this synthesis can be found in later chapters in this report.

9.37 It was clear from the guideline quality appraisal process that no single guideline could be applied in its entirety to the NHS in England, although some had useful and transferrable recommendations that have been incorporated where consistent with the rest of the Review's findings.

9.38 The Review has based its recommendation on its commissioned systematic reviews, advice from clinical experts across a range of relevant areas in the care of children and young people with gender dysphoria and in other relevant and important areas of child and adolescent health, as well as on the mixed methods approach to stakeholder engagement described earlier.

9.39 When the new clinical services are well-established and there is further available evidence, it may be possible to employ more formal guideline development approaches to those aspects of gender-related care that still remain contested.



10. Assessment and diagnosis

10.1 As set out in Part 3 of this report, the individual presentations of many of the children and young people seeking support are diverse and complex.

10.2 The heterogeneity of the patient cohort makes assessment and diagnosis challenging, and many clinicians, both nationally and internationally, have told us that there is no reliable way to accurately predict which young people might benefit from a medical transition and which might benefit from alternative pathway(s) or interventions(s).

International practice

10.3 The York synthesis of international guidelines (Hewitt et al: Guidelines 2: Synthesis) found that all guidelines recommend multi-disciplinary assessment of the child/young person, usually over multiple sessions.

10.4 There is limited clarity about the purpose of assessment. Some guidelines were focused on diagnosis, some on diagnosis and eligibility for hormones, some on psychosocial assessment, and some on readiness for medical interventions.

10.5 Only the Swedish and WPATH 8 guidelines contain detail on the assessment process. Both recommend that the duration, structure and content of the assessment be varied according to age, complexity and gender development.

10.6 Within the international guidelines there is also marked variability in whether both children and adolescents should be assessed and if so, how these assessments might differ.

10.7 All guidelines recommend that discussion of gender development and identity forms part of assessment, but few provide detail. Several recommend assessing duration, severity and persistence of gender dysphoria, and exploring different aspects including incongruence, distress, identity, expression, plans and future desires.

10.8 Very few guidelines recommend formal measures/clinical tools to assess gender dysphoria, and a separate analysis demonstrated that the formal measures that exist are poorly validated.

10.9 Five guidelines recommend assessing for neurodevelopmental conditions.

10.10 The range of recommendations in the guidelines regarding domains that should be assessed are shown in Table 7.

Table 7: Recommended assessment domains

Guideline ID	Gender	Body image	Mental health difficulties	Neuro-diversity or ASC	Sexuality or sexual orientation	Sexual functioning or health	Psychosocial functioning	Cognitive functioning / intelligence	Family functioning or support	Physical health or conditions
American Academy of Child & Adolescent Psychiatry ¹⁷	Yes	No	Yes	No	Yes	Yes	Yes	No	Yes	No
American Psychological Association ¹⁸	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Danish Health Authority ²⁵	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes
de Vries <i>et al</i> ²⁴	Yes	Yes	Yes	No	Yes*	Yes*	Yes	No	Yes	No
Endocrine Society ¹⁰	Yes	No	Yes	No	Yes†	No	Yes	No	Yes	No
European Society for Sexual Medicine ¹³	Yes	No	Yes	No	No	No	Yes	No	Yes	No
Health Policy Project ¹⁴	Yes	No	Yes	No	Yes*	Yes*	Yes	No	Yes	Yes
Norwegian Directorate of Health ³⁰	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Yes
Oliphant <i>et al</i> ^{28, 29}	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	No
Pan American Health Organisation ¹⁵	Yes	No	Yes	No	No	No	No	No	No	Yes
Royal Children's Hospital Melbourne ^{22, 23}	Yes	No	Yes	No	No	No	Yes	Yes	Yes	No
Royal College of Psychiatrists ³⁴	Yes	No	Yes	No	No	No	Yes	No	Yes	No
SIAMS-SIE-SIEDP-ONIG ²⁷	Yes	No	Yes	No	Yes	No	Yes	Yes	Yes	No
South African HIV Clinicians Society ^{31, 32}	Yes	No	Yes	Yes	No	No	Yes	No	Yes	No
Swedish National Board of Health and Welfare ³³	Yes	No‡	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
World Professional Association for Transgender Health ⁹	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes

*HEEADSSS suggested as tool which includes sexuality. †Assessment of psychosexual development. ‡Body image scale identified as useful tool.

ASC, autism spectrum condition; HEEADSSS, psychosocial assessment tool covering Home & Environment, Education & Education, Eating & Exercise, Activities, Drugs/Substances, Sexuality, Suicide / depression, Safety.

NB: Numbered footnotes in column Guideline ID relate to references in source paper.

Source: Taylor *et al*: Guidelines 2: Synthesis

10.11 The University of York's international survey (Hall *et al*: Clinic survey) provides insight into how clinical practice compares to guideline recommendations and found marked variability:

- Duration and number of assessment appointments that a young person would receive varied within and between clinics and were often said to be tailored to individual need. Only Spain had a single assessment appointment with psychology involvement optional.
- Most clinics assess mental health and gender development, and usually psychosocial functioning.

Only five clinics reported routine discussion of fertility preferences, and only two discussed sexuality. Finland was the only country to report routinely assessing for history of trauma.

- Fourteen tools were used across 10 clinics to measure gender incongruence. Only five were used in more than one clinic. There were 36 measures used to assess co-occurring conditions, with only 10 used by more than one clinic.

NHS practice

10.12 In a survey of the Gender Identity Development Service (GIDS) clinicians conducted by the Review in its early stages, the range of opinion on the purpose of assessment was apparent. The survey found that “There is not a clear view amongst the specialists who responded to the survey as to the purpose of the assessment. Some respondents felt that assessment should be focused on whether medical interventions are an appropriate course of action for the individual. Other respondents believe that assessment should seek to make a differential diagnosis, ruling out other potential causes of the child or young person’s distress.” ([PowerPoint Presentation \(cass.independent-review.uk\)](#))

10.13 The majority (79%) of respondents to the gender specialists survey agreed or strongly agreed that psychological formulation can be helpful in assessing children and young people needing support around their gender identity. Those respondents who agreed reasoned that it can provide a structured process for

understanding the child/young person’s distress and provide a more holistic picture of them which can be helpful in developing an appropriate care plan.

10.14 The University of York also invited GIDS to participate in the international survey (Hall et al: Clinic Survey) to record practice in England, but GIDS did not respond.

10.15 In the absence of a formal clinical audit from GIDS or a response to the international survey, the Multi-Professional Review Group’s (MPRG’s) updated report (Appendix 9) represents the most comprehensive review of clinical notes and approach available, albeit only for those children and young people referred for puberty blockers.

10.16 The MPRG’s reflections should be considered with General Medical Council guidance in mind: “Medical notes should provide an accurate record of the exchange of information leading to a decision in order to inform [the patient’s] future care and to help explain and justify the clinician’s decisions and actions” (General Medical Council, 2020).

In summary, the MPRG's findings are as follows:

- The structure of the assessment process was rarely provided.
- It was not clearly evidenced how thoroughly 'gender identity and consideration of different options for gender expression' and 'different treatment options/choices' [as per the Standard Operating Procedure] were explored.
- There was inconsistent evidence as to whether the individual impact of social transition had been explored.
- The clinical notes rarely provided a structured history or physical assessment even though the children and young people presenting had a wide range of familial and congenital conditions.
- Sexuality was not consistently discussed.
- The history of the child/young person's gender journey was rarely examined closely for signs of difficulty, regret or wishes to alter any aspect of their gender trajectory.
- Autism spectrum disorder (ASD) or attention deficit hyperactivity disorder (ADHD) traits or diagnoses were mentioned in the majority of cases, but it is not clear how fully or appropriately these had been explored.
- No family trees were made available, making it difficult to understand family structure and relationships.
- There was a lack of evidence of professional curiosity as to how the child/young person's specific social circumstances may impact on their gender dysphoria journey and decisions.
- Although external reports (for example, from the child/young person's school) were useful, they were frequently not up-to-date.

Perspectives from service users and families

10.17 There was also a general lack of understanding among service users participating in the lived experience focus groups about what the assessment was for and confusion about what was assessment and what was diagnosis. Thoughts on the purpose of assessment included:

- To support young people to explore their options and access the care that's right for them.
- To get validation of their trans identity and access to the medication pathway.
- To make the person comfortable and focus on what they're looking for from the service.
- To ensure patients have an understanding of the healthcare options available.

"What is needed is a space whereby people's understandings of themselves are valued, whilst also providing an open space for exploration of what this means to the individual, and what support they need in order to live a happy and fulfilled life."

**GIDS clinician
Specialist questionnaire**

10.18 Young people describe a mismatch between what they want and expect from the process and their experience or perception of what actually happens. While the public narrative has often asserted that decisions about interventions were taken with insufficient exploration, the experiences or perceptions of some of the young people who were seen by GIDS, and some of their parents was that the process of assessment was too onerous and invasive.

10.19 Qualitative research, undertaken by the University of York (Appendix 3), found that service user experiences and perceptions of the assessment process vary. "Some young people looked forward to talking with someone who understood them. Some, however, felt uncomfortable and initially found it difficult to talk about how they felt. Others expressed frustration, disappointment and at times, anger. They believed talking slowed down or prevented access to medical pathways."

"Everyone's needs are different and I think having an open space where it's patient focused and patient-led is essential."

**Young person
Focus group**

10.20 There was consensus among service users, parents/carers and clinicians around the need for a holistic approach to care, where children and young people and their families feel listened to and able to explore what they may need to feel happy, confident and able to thrive.

Holistic assessment framework

10.21 Based on the uncertainties, differing recommendations and lack of clear detail found in international guidelines and practice, the Review's Clinical Expert Group concluded that there was no approach to assessment that could be directly adopted for use in the NHS.

Development process

10.22 It was agreed that the Clinical Expert Group should work with the Review to develop a consistent, reproducible, developmentally informed, holistic assessment framework to:

- support identification of individual needs
- allow outcomes to be measured more consistently and
- ensure children and young people have a similar experience of the service.

10.23 Clinical experts in a range of related areas of child and adolescent development, health, and wellbeing contributed to the development of the framework and the views of stakeholders have been considered and incorporated where appropriate.

10.24 The CEG agreed the following statement of the key aims and principles for assessment:

"The purpose of assessment is to derive a multi-level formulation for a child or young person who presents to the NHS seeking help around their gender or experience of gender-related distress.

Assessment should seek to understand the holistic needs of the child or young person and their family. This process should determine whether there are any cooccurring and/or contributory elements of the individual's presentation that are affecting their psychosocial wellbeing or functioning and require support as the basis of an individual care plan.

Presentations, pathways and outcomes for this cohort are very individual, and there needs to be a focus on helping each person to find the best pathway for them. Assessments should be respectful of their experience and be developmentally informed.

Not all children and young people will need an in-depth assessment and will get what they need from other forms of local support, informed by consultation and advice from specialist practitioners.

Clinicians along the pathway should remain open and explore the patient's experience and the range of support and treatment options that may best address their identified needs. Taking a collaborative needs-based approach supports the development of the child or young person's broader wellbeing and functioning with the aim of reducing distress, improving their psychological functioning, sense of wellbeing and quality of life."

The framework provides a starting point for services to assess immediate risk and determine the complex care needs of the children and young people referred to the service.

Structure and content

10.25 The holistic assessment framework has been split into eight non-sequential domains centred around the individual child/young person and their parents/carers. Weight given to each component is dependent on individual needs. These domains are consistent with assessment models used in the care of children, young people and families in other child, adolescent clinical care, and consider the individual as a whole.

10.26 Domains that connect more specifically to understanding gender development, gender

incongruence and gender-related distress and dysphoria have also been incorporated drawing upon relevant literature.

10.27 When undertaking an assessment, clinicians should remain open-minded, have no preconceived outcome and should have an appreciation that the child/young person's priorities may change over time. They should also be aware of parent/carer expectations and the impact these may have on the young person's priorities, or alternatively the potential for significant disagreement/fragmentation within families about the nature of the child/young person's distress.

Figure 29: Holistic needs assessment - essential components



Family context

10.28 Understanding children in the context of their families and home environments, including family makeup, key relationships, strengths, resources and social circumstances, as well as parental/carer health and well-being, is a core principle of good practice across health and social care settings.

10.29 It is particularly important in this group of young people given that there is evidence of an increased frequency of family parental physical and/or mental ill health and other family stressors in this group (Di Ceglie et al., 2002; Taylor et al: Patient characteristics).

Development

10.30 A detailed developmental history seeks to gather information from parents/carers about the young person's development, including physical, language, cognitive and social development.

10.31 Environmental, social and psychological factors unique to every child and family can affect development. During the transition from childhood to adolescence young people can experience substantial social, emotional and physical changes. This domain requires additional areas of focus where a neurodevelopmental condition is either confirmed or suspected.

10.32 Given the high prevalence of neurodiversity identified within this population, all those attending children and young people's NHS gender services should receive screening for neurodevelopmental conditions (Strang et al., 2016). Where appropriate, consideration should be given to cognitive and language assessments.

Physical health needs

10.33 An understanding of the child or young person's physical health history and the impact of any health issues on development and wellbeing is important.

10.34 Long-term health conditions can influence various aspects of children's development and may include elevated anxiety around health and wellbeing for both children and their parents.

10.35 The child/young person may have needed to make complex adjustments both socially and emotionally. They could also have experienced trauma in relation to medical experiences or hospitalisations.

Mental health

10.36 Children and young people referred to specialist gender services have higher rates of mental health difficulties than the general population. Because gender incongruence is not considered to be a mental health condition clinicians are often reluctant to explore or address co-occurring mental health issues in children and young people presenting with gender distress. Regardless of any other causes for mental health conditions, living with gender issues and the process of transitioning (if this is felt to be the appropriate path for an individual) comes with challenges.

10.37 The mental health assessment within a gender clinic should follow the structure of a standard evidence-based core CAMHS assessment. There are many published examples of suggested structures for this assessment, which may involve the use of validated questionnaires for children and young people and their carers to inform further assessment.

10.38 In a standard mental health assessment, all of the other seven domains described as part of this holistic assessment framework are usually considered in depth in relation to mental health. Systematic questioning should include enquiry about mood, anxiety, emotional regulation, beliefs around weight, potential somatic symptoms, concentration, sleep and appetite, self-harm, and suicidal thoughts and behaviours. A mental state examination should be included as appropriate.

10.39 A mental health diagnostic formulation incorporates diagnosis, level of impairment, risk assessment, and consideration of predisposing, precipitating and perpetuating/maintaining factors and how they impact on current functioning.

10.40 Identifying and treating mental health difficulties should be an integrated part of the care for children and young people presenting with gender dysphoria. Evidence-based treatments to support mental health and resilience, should be available to children and young people presenting with gender issues as they would be to any other young people presenting to NHS services.

Education, peer relationships and social context

10.41 Consideration of the child/young person's functioning in relation to education, their broader well-being and the nature of their peer relationships is important in assessing their overall functioning and supports a holistic understanding of their strengths and vulnerabilities.

10.42 It is important to obtain information about school attendance and any difficulties in educational achievement, as well as a recent Education, Health and Care plan for any young person with special educational needs.

Safeguarding

10.43 As with all health care provision, when working with children and young people safeguarding must be a consideration. There are complex ways in which safeguarding issues may be present. Clinicians working with children and young people experiencing gender dysphoria have highlighted that safeguarding issues can be overshadowed or confused when there is focus on gender or in situations where there are high levels of gender-related distress.

10.44 Sources of risk in this group include:

- transphobic bullying in school and in other settings
- breakdown in relationships with families
- online grooming or harm
- cultural or religious pressure.

10.45 The Review has heard about a small number of cases where the child's gender identity was consciously or unconsciously influenced by the parent. It is very important that the child/young person's voice is heard and that perceptions of gender identity represent the child/young person's sense of self.

10.46 The Review has also heard a series of accounts of children and young people at safeguarding risk being lost to follow up and / or of young people presenting to the emergency department with a safeguarding history that staff were unaware of because of changes of name and NHS number.

10.47 Staff should remain alert to these complexities and know when to act, raising them during supervision and with the wider Multi-Disciplinary Team (MDT), and adhering to recognised principles of safeguarding and risk management as applied to children/young people and their parents/carers.

10.48 Clinicians should assess and consider safeguarding across each domain of the assessment framework, documenting issues fully within this dedicated domain.

Gender development and experiences

10.49 Clinicians should undertake an in-depth assessment of the child/young person's gender development over time, how this manifested and how it has been managed within the family.

10.50 Clinicians should seek to understand whether any steps have been taken towards social transition and any impacts on well-being, or whether the child/young person wants to make changes.

10.51 An assessment of the presence and impact of any distress should be undertaken, including the impact and experience of puberty and pubertal changes. The clinician should examine the impact of any distress on, for example, daily functioning, social or relationship issues, any sensory issues that may be contributing to the distress and steps that may have been taken to manage this.

10.52 The child/young person's expectations and hopes about support pathways, their understanding of the range of pathways and outcomes, and the pros and cons of interventions at different points in time should also be considered, including potential fertility and broader health impacts.

10.53 Depending on the age and stage of development of each individual child/young person, this may need to be discussed with the child/young person and parent/carer, both together and apart to generate a thorough record of what has been observed, by whom and when, to gain a sense of their individual gender feelings and history. It is also important to understand whether there are any differences in perception between the child/young person and their parents/carers and whether this has been the cause of conflict or family breakdown.

Sexual development, knowledge and sexual orientation

10.54 Clinicians should seek to understand the child/young person's emerging sexuality and sexual orientation, consistent with assessments in other adolescent settings, where deemed appropriate to age and context.

10.55 If this has been an area of concern for younger children, the clinician could capture this elsewhere, for example when looking at safeguarding, developmental history and exposure to adversity and trauma.

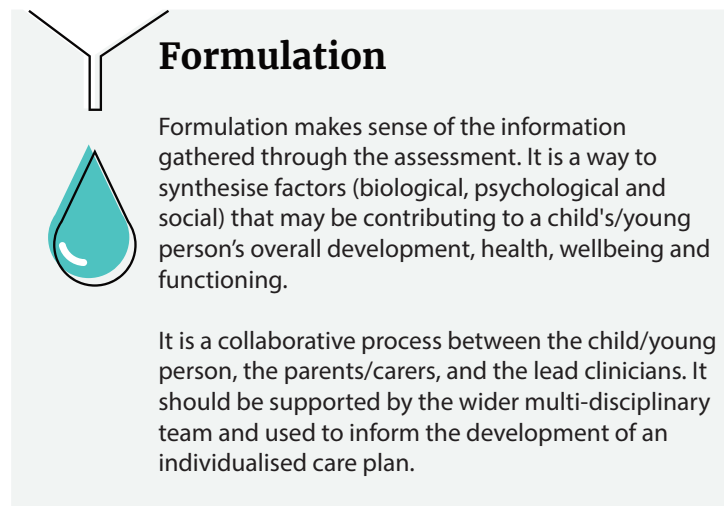
Formulation, diagnosis and care plan

10.56 The assessment is a first step in forming a relationship with a child/young person and their family/carers and developing an understanding of the child/young person as an individual in the context of their aspirations and needs. The assessment should lead to three further steps:

- A formulation of all the factors that are important to the child/young person's presentation
- A list of any relevant diagnoses
- An individualised care plan.

Formulation

10.57 The clinician working with the child/young person should use the information gathered to develop an evidenced formulation. This should be created and agreed with the child/young person and their parents/carers.

Figure 30: Formulation

10.58 Formulation is used to make sense of and pull together information gathered through an assessment to create a shared understanding of the child/young person's strengths and assets, as well as difficulties and needs, to inform the development of an individualised holistic care plan. It is a widely practised approach by a range of professionals and across health services and is endorsed by professional and other organisations (Havighurst & Downey, 2009; Skills for Health, 2016).

10.59 The formulation approach offers a structure for synthesising the information gathered during the assessment and for negotiating differences of opinion. It can be carried out at various levels of detail and complexity and can be helpful in identifying other factors that may be influencing gender-related distress and where there is agreement about areas to work on, even if differences of opinion remain. Importantly, it allows all parties to hold an open and mutually respectful position about a child/young person's gender identity whilst defining a personalised intervention package.

Diagnosis and differential diagnosis

10.60 The clinician's role in a consultation is to integrate information from a patient's history, assessment and any investigations or tests, in order to determine the most likely cause of their symptoms, and how best to address them.

10.61 In addition to the process of formulation described above, this often involves arriving at a formal diagnosis. The diagnostic process is a complex, collaborative activity that involves clinical reasoning and information gathering to understand the patient's problem (Balogh et al., 2015).

10.62 Differential diagnosis is the process of ruling out other possible diagnoses that present in a similar way.

10.63 Differential diagnosis is seen by some as an attempt to find 'any other reason' for the person's distress rather than them being transgender and feel strongly that clinicians should not be actively looking for reasons to "excuse away" how the young person feels.

10.64 There are several reasons why listing all relevant formal diagnoses is important for this group of children and young people:

- In order to provide the best evidence-based care, it is important that the clinician considers all possible diagnoses which may be hindering the young person's wellbeing and ability to function and thrive.
- The clinician carries responsibility for the assessment, subsequent treatment recommendations, and for any harm that might be caused to a patient under their care. They need to define, as clearly and reproducibly as they possibly can, exactly what condition they are treating, in order to be accountable for their decisions on the options offered to the patient. In the case of offering potentially irreversible medical treatments to patients, it is important to specify whether they meet formal diagnostic criteria for medical dysphoria in any other conditions.
- The University of York's systematic review (Taylor et al: Patient characteristics) demonstrated that other diagnoses were not consistently documented, and in order to better understand and support these children and young people it is essential that all diagnoses are systematically recorded for clinical and research purposes.

10.65 There are two widely used frameworks which provide diagnostic criteria. The International Classification of Diseases (ICD), which is the World Health Organization (WHO) mandated health data standard, and the Diagnostic and Statistical Manual of Mental Disorders (DSM), which is the classification system for mental health disorders produced by the American Psychiatric Association. The current versions - ICD-11 and DSM-5 - came into effect in January 2022 and 2013 respectively.

10.66 ICD-11 (WHO, 2022) has attempted to de-pathologise gender diversity, removing the term 'gender identity disorders' from its mental health section and creating a new section for gender incongruence and transgender identities in a chapter on sexual health. ICD-11 defines gender incongruence as being "characterised by a marked incongruence between an individual's experienced/expressed gender and the assigned sex." It refers to a mismatch between birth registered and experienced gender but does not include dysphoria (distress) as part of its diagnostic requirements. Gender variant behaviour and preferences alone are not a basis for assigning the diagnosis. The full criteria for gender incongruence of childhood and gender incongruence of adolescence or adulthood are listed in Appendix 10.

10.67 DSM-5 (American Psychiatric Association, 2013), revised in 2022 (DSM-5-TR) (American Psychiatric Association, 2022) is the most widely used framework for diagnosing gender dysphoria (Appendix 10). In addition to describing the incongruence between experienced/expressed gender and assigned gender, DSM 5-TR specifies that "In order to meet criteria for the diagnosis, the condition must also be associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning."

10.68 The University of York [Hewitt: Guidelines 2: Synthesis] found no clear consensus across international guidelines reviewed as to whether DSM-5 diagnosis of gender dysphoria or ICD 11 diagnosis of gender incongruence is preferred. However, the international survey [Hall et al: Clinic Survey] demonstrated that in clinical practice the DSM-5 diagnosis of gender dysphoria is more widely used, this also applies to research publications.

10.69 The Review has heard mixed views about how young people perceive the value of a diagnosis of gender dysphoria. Many young people do not see themselves as having a medical condition and some may feel it undermines their autonomy and right to self-determination. Others see diagnosis as validating, and important when looking to access hormone treatment.

"It is a good thing because then solutions can be made. However, the way that it is diagnosed is important so that dysphoria is not increased. It is important to be able to make sure people are safe and mentally well."

"I don't care personally, but it is important to me that medical professionals understand that I require gender-related medical care, and that diagnosis can function for that. I would prefer that diagnosis is not a prerequisite for care."

"Having a diagnosis doesn't make you "any more trans" than someone who doesn't."

**Young people
Lived experience focus groups**

10.70 The qualitative research conducted by the University of York (Appendix 3) found that:

"For many young people - and young adults - dysphoria is a useful medical label, helping to legitimise and explain experience. It also helped justify asking for support [...] Overtime, however, some expressed ambivalence. They continued to understand the value of dysphoria, but thought it could also represent an unhelpful diagnosis, in which their social experience could only be regarded as legitimate if a medical label were attached."

10.71 The qualitative study goes on to say "Clinicians understand the importance of diagnosis, particularly when justifying decision making, but remained sensitive to over-medicalisation, especially when a person's dysphoria was socially located."

10.72 Previously, a diagnosis of gender dysphoria has been the basis for initiating medical treatment, however, this is not predictive that the individual will go on to have longstanding trans identity.

10.73 Understanding how the gender-related distress has evolved in that particular individual, what other factors may be contributing, and the individual's needs and preferences for treatment are equally important. It is also important to ensure that there is a focus on functioning, general well-being and resilience, to ensure the child/young person is able to make considered decisions about their future pathway.

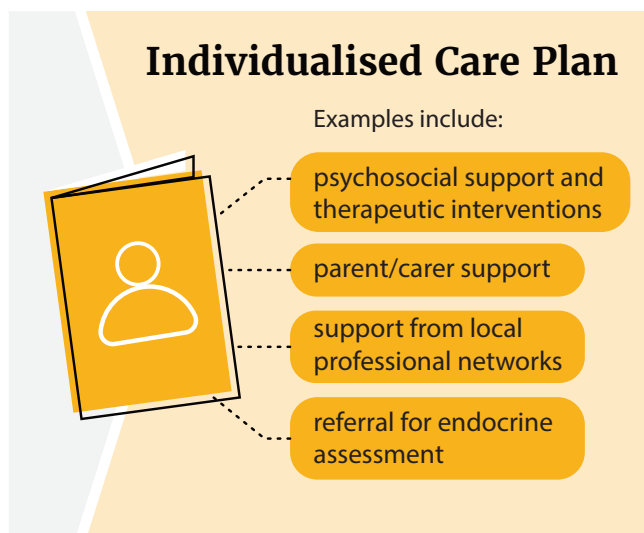
Individualised care plan

10.74 The holistic needs assessment and subsequent formulation should lead to the development of an individualised care plan with input from the multidisciplinary team.

10.75 This should be a collaborative process that involves a young person and their healthcare professional working together to reach a joint decision about care. Shared decision making involves choosing treatments based both on evidence, and on the person's individual preferences, beliefs and values (NICE, 2021)

10.76 An individualised care plan should include potential pathways of psychosocial support, recommendations on therapeutic interventions, referral for endocrine assessment where clinically indicated, parent/carer and sibling support options as well as wider recommendations for further support that might be accessed from local professional networks.

Figure 31: Individualised Care Plan



10.77 The Review has kept at its heart the concern that the NHS is dealing with a group of young people who frequently, albeit not always, will be in a state of considerable distress by the time they reach the NHS, and will often have multiple unmet needs.

10.78 There should be a tiered approach to any intervention package outlined in an individualised care plan which:

- addresses urgent risk
- reduces distress and any associated mental health issues and psychosocial stressors, so the child/young person is able to function and make complex decisions

- co-develops a plan for addressing the gender dysphoria, which may involve a combination of psychological and physical treatment options.

10.79 The controversy surrounding the use of medical treatments has taken focus away from what the individualised care and treatment plan is intended to achieve, both for the individual seeking support from NHS gender services and for the overall population.

10.80 Young adults, interviewed for the University of York's qualitative research study, "expressed an incredibly diverse range of experiences and pathways. Many benefitted from access to medical pathways, which they said, enabled them to lead the lives they wanted. Others explored equally empowering options, such as social transitioning and more fluid and non-binary expressions of gender." (UoY qualitative research summary report, page 10)

10.81 Several young people and young adults participating in the lived experience focus groups similarly reflected that it is important to inform people that medical transition is not the only option and that choosing not to go down that route does not invalidate their identity.

"I think it's helpful for people to know that there's not only one route or one set way to transition or be trans. They might want just hormones, or just surgery, people are different with different experiences, presentations and bodies. It's fine for that to be the case, it's okay to have different plans for your medical transition."

**Young person
Lived experience focus group**

10.82 The qualitative study found that “For some, initial gender questioning created a sense of urgency, much of which focused on accessing medical pathways. These young adults acknowledged that their original response was to “fix” the problem. This became less important to them as they grew older. Some explained that discovering different ways to express gender identity was one of the most important things they had learned. They wished this had been explained to them when younger but remain uncertain about the extent they would have listened to such advice.” (Appendix 3).

10.83 The central aim of the assessment process and individualised care plan is to help young people to thrive and achieve their life goals. For the majority of young people, a medical pathway may not be the best way to achieve this. For those young people for whom a medical pathway is clinically indicated, it is not enough to provide this in the absence of addressing any wider mental health and/or psychosocially challenging problems such as family breakdown, barriers to participation in school life or social activities, bullying and minority stress.

Recommendation 1:

Given the complexity of this population, these services must operate to the same standards as other services seeing children and young people with complex presentations and/or additional risk factors. There should be a nominated medical practitioner (paediatrician/child psychiatrist) who takes overall clinical responsibility for patient safety within the service.

Recommendation 2:

Clinicians should apply the assessment framework developed by the Review’s Clinical Expert Group, to ensure children/young people referred to NHS gender services receive a holistic assessment of their needs to inform an individualised care plan. This should include screening for neurodevelopmental conditions, including autism spectrum disorder, and a mental health assessment. The framework should be kept under review and evolve to reflect emerging evidence.



11. Psychological and psychosocial interventions

11.1 There are many different ways of helping gender-questioning young people improve their health and wellbeing, regardless of their longer-term decisions about medical or social transition.

11.2 Part 3 described the wide range of associated conditions that may be part of a picture of gender related distress. A holistic package of care to address these issues may involve a broad range of options such as:

- supporting a young person to get back into school
- diagnosing autism or ADHD
- supportive group sessions
- psychological interventions to help anxiety, depression or trauma
- building resilience
- working with the whole family to address breakdowns in relationships
- providing more information about gender expressions and the range of possible interventions.

11.3 The terms psychological therapies, psychotherapy, psychosocial interventions and talking therapies are often used interchangeably in everyday settings. Strictly speaking, psychological interventions refer to treatments based on a theory of psychological functioning, while the term psychosocial interventions is less specific and is used to describe a wide range of supportive approaches to improving mental health, wellbeing and functioning.

11.4 The role of psychological therapies in supporting children and young people with gender incongruence or distress has been overshadowed by an unhelpfully polarised debate around conversion practices. Terms such as ‘affirmative’ and ‘exploratory’ approaches have been weaponised to the extent that it is difficult to find any neutral terminology. This has given the impression that a young person can have either therapeutic interventions or a medical pathway.

11.5 Whilst the Review’s terms of reference do not include consideration of the proposed legislation to ban conversion practices, it believes that no LGBTQ+ group should be subjected to conversion practice. It also maintains the position that children and young people with gender dysphoria may have a range of complex psychosocial challenges and/or mental health problems impacting on their gender-related distress. Exploration of these issues is essential to provide diagnosis, clinical support and appropriate intervention.

11.6 The intent of psychological intervention is not to change the person’s perception of who they are but to work with them to explore their concerns and experiences and help alleviate their distress, regardless of whether they pursue a medical pathway or not. It is harmful to equate this approach to conversion therapy as it may prevent young people from getting the emotional support they deserve.

11.7 No formal science-based training in psychotherapy, psychology or psychiatry teaches or advocates conversion therapy. If an individual were to carry out such practices they would be acting outside of professional guidance, and this would be a matter for the relevant regulator.

Perspectives from service users and families

11.8 The Review's work with service users, parents/carers and clinicians revealed a perceived gap in provision for those who are exploring/questioning their gender identity but are unsure of what it means for them. The length of the wait before being seen means many young people are forced to undertake this exploration on their own.

"Good mental health services would have really been a big benefit for me as I was exploring my identity, dealing with things like dysphoria...."

Young person
Lived experience focus group

"I would hope that going forwards, there would be more treatment options available for young people experiencing gender-based distress as well as physical interventions, such as third wave CBT, family therapy or psychotherapy at GIDS"

GIDS clinician
Specialist questionnaire

"My GP was fine with gender stuff but he was only willing to give me one diagnosis in my life... I can have more than one thing 'wrong' with me, many people do, there's also a link between ADHD, Autism and Gender stuff – but it all feels ignored, like they just see my diagnosis for dysphoria and they refuse to see the rest. It doesn't feel like my other experiences are valid."

Young person
Lived experience focus group

11.9 Young people want a non-judgemental space to talk about how they are feeling and options for care. They also want help to reduce the dysphoria (distress) that they are feeling.

11.10 Parental and personal narratives described children and young people having more than one issue presenting, but services (e.g. GIDS, CAMHS, GP), dealing with each issue in isolation, without considering the impact of issues on each other. This may include neurodivergence or significant mental health issues, including past history of eating disorders, experiences of loss and/or trauma and bullying.

"I knew walking in that I wasn't going to get any help from them, I just had to tell them what they wanted to hear. I knew that they were the doorway to getting me what I wanted. I wouldn't speak openly about any concerns I had because I knew that could prevent me from accessing the care I needed."

Young person
Lived experience focus group

11.11 Some young people have spoken about the perception that disclosing neurodiversity, mental health issues or trauma would be used to discredit their sense of identity. It is concerning that young people may not feel they can be honest with their health professionals. They describe the sense that they need to play a role and manage services to get what they need. This has led to some people actively not seeking help with their mental health or hiding mental health issues.

International guidelines and practice

11.12 Historically the model of care for children and young people presenting with gender incongruence or distress was entirely based on a psychosocial model, with early medical intervention with puberty blockers being introduced more recently. Most clinical teams would still see this as the starting point in a care pathway.

11.13 This is in part reflected in the University of York's synthesis of international guidelines (Hewitt et al: Guidelines 2: Synthesis) which found that all but two guidelines describe psychosocial support as a key component of care.

11.14 Earlier guidelines described psychosocial care as the mainstay of treatment, and the recent Finnish and Swedish guidelines describe it as the first line treatment. However, there is now an emerging international divergence, with five guidelines saying that not all children or adolescents will need psychosocial care, and all but one of these five promoting a gender-affirmative approach to care.

11.15 Another problem across the international guidelines is the lack of detail on the aims, approach or end point of psychological/ psychosocial interventions. There is variability, and a lack of definition and consensus about gender exploration, in particular about whether it should form part of the assessment, and whether it is important for children and adolescents or just children.

11.16 These discrepancies in approach echo the tensions that have entered the debate in the UK about affirmative or exploratory approaches.

11.17 Most guidelines discuss psychosocial support for parents and highlight the importance of parental care and support for children and young people in their gender care. Most also suggest providing education about gender development and identity to young people and their families.

11.18 The additional challenges in supporting looked after children are flagged in six guidelines.

11.19 Despite recommendations regarding the need for psychosocial interventions, the international survey (Hall et al: Clinic Survey) reported that in practice psychosocial interventions were quite limited across the responding gender services. Five clinics had no in-house provision, and others offered a small range of options and/or psychoeducation. This highlights a gap between aspiration and delivery.

Understanding the evidence

11.20 The University of York conducted a systematic review to identify and summarise evidence on the outcomes of psychosocial interventions for children and adolescents experiencing gender incongruence (Heathcote et al: Psychosocial support).

11.21 Only ten studies met the inclusion criteria. Study quality was assessed as low in nine of the studies and moderate in one study. Selection criteria for participants were not clearly defined, and the studies lacked appropriate comparators.

11.22 The studies used various interventions:

- Some using standardised approaches such as cognitive behaviour therapy, mindfulness and self-compassion, or attachment-based family therapy,
- Some using more focused approaches developed or adapted specifically for gender or sexual minority youth.

11.23 All studies included in the final analysis used validated instruments to assess outcomes, but there was little congruence between studies on the measures used.

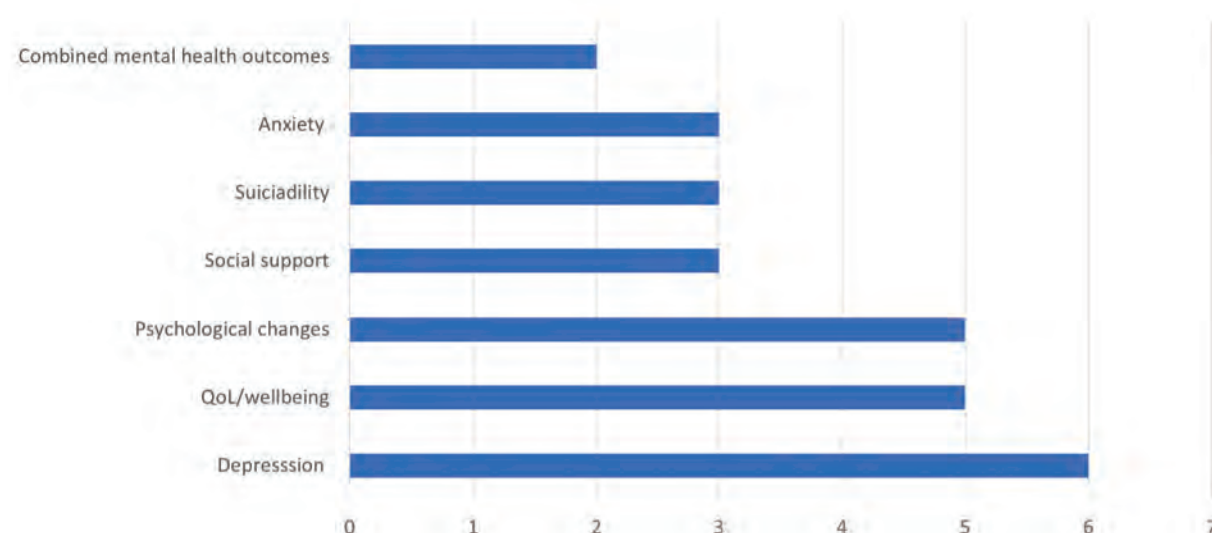
11.24 The most commonly reported outcomes related to mental health (depression, anxiety and suicidality).

- Four out of eight studies which reported on depression (either alone or within a combined mental health outcome) reported significant improvements.
- Three out of five studies which reported on anxiety (either alone or within a combined mental health outcome) also reported significant improvement.
- Three out of four studies that looked at suicidality found significant improvements in suicidality scores, and one found no change.

11.25 The studies focusing on psychological changes and/or psychosocial changes found improvements in a range of aspects such as resilience, self-compassion and self-acceptance, as well as quality of life, global functioning, participation and well-being.

11.26 Where there was adequate follow-up, studies found that many of these outcomes fell off over time. There was no indication across the studies of adverse or negative effects.

Figure 32: Psychosocial support interventions: outcomes measured



Source: Data from Heathcote et al: Psychosocial support

11.27 Because of the low quality, poor reporting of the intervention details and heterogeneity of the interventions and their aims and outcome measures, it was not possible to directly compare the different types of interventions. It was also not possible to determine which specific approach might work best for whom.

11.28 The University of York concluded that there is limited research evaluating outcomes of psychosocial interventions for children and adolescents experiencing gender incongruence, and low quality and inadequate reporting of the studies identified. Therefore, firm conclusions about their effects cannot be made. Identification of the core approach and outcomes for these interventions would ensure they are addressing key clinical goals, attending to the needs of children and families as well as supporting future aggregation of evidence.

Current NHS practice

11.29 GIDS reports that only a minority of children and young people go on to an endocrine pathway, so the Review was keen to hear about what support and treatment packages were offered to those who did not go on to a medical pathway. However, despite a number of discussions and a focus group with GIDS staff on this topic, it has not been possible to obtain any clear information about the range of options offered.

11.30 Within the GIDS service, patients may have had anything from a one or two appointments to in excess of 100. This indicates that some practitioners must have been providing therapeutic input to patients, despite the fact that there was not a formal structured programme in place.

11.31 Because the assessment process at GIDS appears to have been organic, without a clear end point, it seems that an assessment has formed the starting point for a therapeutic relationship which could continue over many sessions.

11.32 It appears that, for those young people for whom an endocrine option was not the best option, staff at GIDS were doing their best to provide ongoing support, perhaps because local services were not able to offer this. In addition, staff were clearly in a difficult position balancing the needs of ongoing patients with the pressure of the waiting list.

"It's bit controversial and I don't wanna upset or anger anyone, but like buffer periods and I know it is just like a touchy subject but I personally when I was 14, like found [social media influencer] YouTube and was like, oh my gosh, I'm a trans man. This is me, like I need to go on testosterone, I need to get top surgery, I need to like do all these things. And I was so sure I wanted to testosterone for like 2, 3 years.

I am really glad that I didn't go on testosterone, because I realized during like my 17 sessions at GIDS that that wasn't for me. And it was really through those sessions and also a lot of self-exploration, and I was so, so, sure that I wanted it.

So I think, buffer periods of like 7 years - no, that's not the vibe, but having spaces where you can have proper informed consent. Like is really important and exploring all of your options and being aware of all of the consequences. Consequences is a very negative, heavy loaded term, but like, yeah, consequences because, sometimes people do things and it's not right for them at the time, or maybe it is right for them at the time, but isn't later on. So yeah. Sorry, if that offends anyone."

Young person
Lived experience focus group

"If someone is like dead set on wanting something be that like hormone treatment or surgery. Making sure those referrals happen and they don't have to wait years on years just to get on the list. I think that's quite important. You know, if someone is well informed they know exactly what they want, I don't see why there should be any, like obviously giving informed consent, but I don't see why there should be like a buffer period if someone's very much like, no I know what I want."

Young person
Lived experience focus group

11.33 Clinicians have also reported that the length of the waiting list can be a barrier to having exploratory discussions with children and young people that could provide them with a broader range of options for addressing their distress. This is because by the time young people are seen they have often made their minds up that an endocrine pathway is their chosen option and do not want to consider other approaches.

11.34 The Review also heard that some staff had looked at how standard evidence-based treatments (in this case third-wave CBT) could be used to help young people to manage their gender-related distress, stressing that this can be achieved without pathologising or changing a young person's gender identity (Canvin 2022). However, this was not developed into a full research study.

Summary – psychological and psychosocial interventions

11.35 Psychological and psychosocial interventions serve multiple different purposes for this group of children and young people, dependent on any underlying mental health problems and the particular features of their gender presentation. However, there has been a failure to systematically consider how psychosocial interventions should be used and to research their efficacy.

11.36 Some therapies, which are well proven for associated mental health problems, already have a strong evidence base. Where it is clear that children/young people have such problems, they should receive the appropriate therapies in the same way as any other young person seeking support from the NHS. Outcome measures should include evaluating the impact on the associated medical health condition, and any additional impact on the gender-related concerns and distress.

11.37 Beyond this first line approach, it is important to understand how specific therapeutic modalities may help the core gender dysphoria and bodily distress.

11.38 One of the given rationales for puberty blockers is that they may improve gender dysphoria or overall mental health. The evidence to date does not provide strong support for this (see Chapter 14). Furthermore, even after masculinising/feminising hormones, dysphoria may still persist. Therefore, it is important to explore other approaches for addressing the gender-related distress, which in itself is debilitating. These may be of value regardless of whether or not an endocrine pathway is chosen.

11.39 Navigating life as a transgender person can be challenging. Individuals may encounter hostility for being who they are and are likely to suffer from minority stress. If the ultimate goal of any intervention is to help the child or young person to function and thrive, they need to be provided with tools and strategies to give them the best opportunity to do so.

"I also feel there should be support with mental health. Whether it be towards gender identity or towards the stress. And having a way to cope with the stress that comes with going through the process and that comes with being trans in general."

Young person
Lived experience focus group

"I know lots of trans kids who are really struggling with their mental health, not because of their gender not because they struggle with where they fit it but because of how society and institutions treat them."

Parent
Listening session

11.40 Children and young people thrive best when in a supportive family environment and facilitating the health and well-being of all family members will be important in achieving this end. Some participants in the Review's lived experience focus groups highlighted the positive role of families, carers and others in supporting them to navigate transition and related care.

11.41 Other participants spoke of the personal damage that a lack of parental support had had on their adult relationships with their family. They suggested that in-person and online support groups for parents and carers to meet other parents and carers and professionals who can answer their questions and provide mental health support/counselling if needed was incredibly important.

"I think that access to informational texts are really important. I did a lot of my research on the internet and got told so much false information because there were so many sources, so some trustworthy informational sources about being transgender, social and medical transitions, etc, would have benefited me a lot."

Young person
Lived experience focus group

"I feel like there is a lack of support for parents who are uneducated and want to learn how they can support their child, and also for ones who have to essentially go through a loss in their life. It may be hard for them to come to terms with the fact that they've lost something and gained another, so a service that could provide support and guidance for parents would be extremely useful."

Parent
Listening session

11.42 The role of family therapists in addressing some of the above problems and challenges should also be considered.

11.43 In summary, there is a lack of evidence about alternative approaches for managing gender-related distress, and it is difficult to obtain information about routine clinical practice or pathways of care for children and young people who do not receive medical interventions. An explicit clinical pathway must be developed for non-medical interventions, as well as a research strategy for evaluating their effectiveness.

Recommendation 3:

Standard evidence based psychological and psychopharmacological treatment approaches should be used to support the management of the associated distress and cooccurring conditions. This should include support for parents/carers and siblings as appropriate.

12. Social transition

12.1 Through discussions with stakeholders, it is clear that social transition is a cause of concern for many people, and our remarks about social transition were some of the most quoted parts of the Review's interim report.

12.2 The approach taken to social transition is very individual but it is broadly understood to refer to social changes to live as a different gender such as altering hair or clothing, name change and/or use of different pronouns. There is a spectrum from relatively limited gender non-conforming changes in appearance in adolescence to young people who may have fully socially transitioned from an early age and be 'living in stealth' (that is, school friends/staff may be unaware of their birth-registered sex).

12.3 There are different views on the benefits versus the harms of early social transition. Some consider that it may improve mental health and social and educational participation for children experiencing gender-related distress. Others consider that a child who might have desisted at puberty is more likely to have an altered trajectory, culminating in medical intervention which will have life-long implications.

12.4 One key difference between children and adolescents is that parental/carer attitude and beliefs will have an impact on a child's ability to socially transition, whereas adolescents have more personal agency.

12.5 Social transition may not be thought of as an intervention or treatment, because it is not something that happens in a healthcare setting and it is within the agency of an adolescent to do for themselves. However, in an NHS setting it is important to view it as an active intervention because it may have significant

effects on the child or young person in terms of their psychological functioning and longer-term outcomes.

12.6 Although the focus of the Review is on support from point of entry to the NHS, no individual journey begins at the front door of the NHS, rather in the child's home, family and school environment. The importance of what happens in school cannot be under-estimated; this applies to all aspects of children's health and wellbeing. Schools have been grappling with how they should respond when a pupil says that they want to socially transition in the school setting. For this reason, it is important that school guidance is able to utilise some of the principles and evidence from the Review.

International practice

12.7 The University of York's review of international guidelines (Hewitt et al: Guidelines 2: Synthesis) found that most guidelines recommend providing information about the benefits and risks of social transition but vary in whether the recommendations apply to both children and adolescents or just to children.

12.8 WPATH 8 guidance has moved from a 'watchful waiting' approach for children to a position of advocating for social transition as a way to improve children's mental health.

12.9 Several guidelines recommend that social transition should be framed in a way that ensures children can reconsider or reconceptualise their gender feelings as they grow older.

12.10 Several guidelines discuss education about the risks and benefits of binders and packers, and safe use as appropriate.

Reflections from the Multi-Professional Review Group

12.11 The Multi Professional Review Group (MPRG) report (Appendix 9) notes that many children and young people attending GIDS have changed their names by deed-poll, attend school in their chosen gender and some have changed NHS numbers by the time they are seen. Based on the MPRG review of the notes, this history/journey was rarely examined closely by GIDS for signs of difficulty, regret or wishes to alter any aspect of the child/young person's gender journey trajectory.

12.12 The MPRG is concerned that some children living in stealth have a common, genuine fear of "being found out", suffering rejection either due to not having taken friends into their confidence (withholding personal information regarding biological sex or specific sex-based experiences), or due to trans-prejudice or transphobia. They observed that this fear of "being found out" is driving a sense of urgency to access puberty blockers, which may not allow consideration of other pros and cons of the treatment.

12.13 The MPRG also observed that living in stealth appears to increase a child's level of stress and anxiety with resultant behaviour and mental health problems. These included social withdrawal, with children becoming increasingly isolated, including resorting to home-schooling or tutoring and even rarely leaving their house.

Perspectives from service users and families

12.14 Young people and young adults have spoken positively about how social transition helped to reduce their gender dysphoria and feel more comfortable in themselves. However, it is the reaction of those around them that can make it difficult. Young people identified that space to talk about socially transitioning and how to handle conversations with parents would be helpful. They feel that parents and carers need more information about social transition and the best way to support their child through that process.

"It would be helpful to show that there is no judgement in experimenting with their appearance such as clothing and makeup. Also to be shown how they don't need to have a specific label to use and should try to feel as comfortable as they can."

Young person
Lived experience focus group

"To me social transition is an act undertaken by the child, so I wouldn't call it an active intervention. [The] question is whether to support it or not and to factor in if the child is considering it or has already announced it. [The] act by community is supporting or not supporting."

Young trans adult
Listening session

12.15 The qualitative research conducted by the University of York (Appendix 3) found that, while waiting for clinical input many young people “took steps to help manage how they felt and most socially transitioned while waiting. The process, although dynamic and flexible, was positively regarded by young people. Many parents, although initially hesitant, come to understand the value of social transitioning. A few, however, remained anxious about its impact. Families would have welcomed advice on how to negotiate social transitioning but many experienced difficulties in accessing support”.

12.16 However, the Review heard concerns from many parents about their child being socially transitioned and affirmed in their expressed gender without parental involvement. This was predominantly where an adolescent had “come out” at school but expressed concern about how their parents might react. This set up an adversarial position between parent and child where some parents felt “forced” to affirm their child’s assumed identity or risk being painted as transphobic and/or unsupportive.

12.17 Some parents who spoke to the Review felt that social transition was of more benefit to their child in terms of its social impact than it helping to manage their gender incongruence. They describe how their children were previously isolated and bullied but their status amongst peers had improved as a result of “coming out”.

“Pre-social transition, [child] had social difficulties due to ASD and was bullied. After social transition [child] was given enormous kudos at school. They were geeky and awkward, but became a celebrity.”

Parent
Listening session

“Her whole friends group has some sort of trans or nonbinary identity. Older friends don’t seem to be in that camp – they are open and supportive but not identifying. It seems to have been socially beneficial to her to present as trans – as a high functioning autistic person – it has helped her with her social life. Her friends seem to be celebrating in trans identities.”

Parent
Listening session

12.18 Clinicians have said that most children have already socially transitioned before reaching the specialist gender service. Some clinicians have suggested that support to think through social transition could happen within local services and does not need to sit within NHS specialist services.

“Ideally local services should be available to young people where they can discuss and explore their gender, be supported to try out social transition etc. If this was the case a specialist service would only be needed if they wanted assessment for physical interventions or there were multiple factors at play that local services felt unable to support with.”

Clinician
Specialist survey

Understanding the evidence

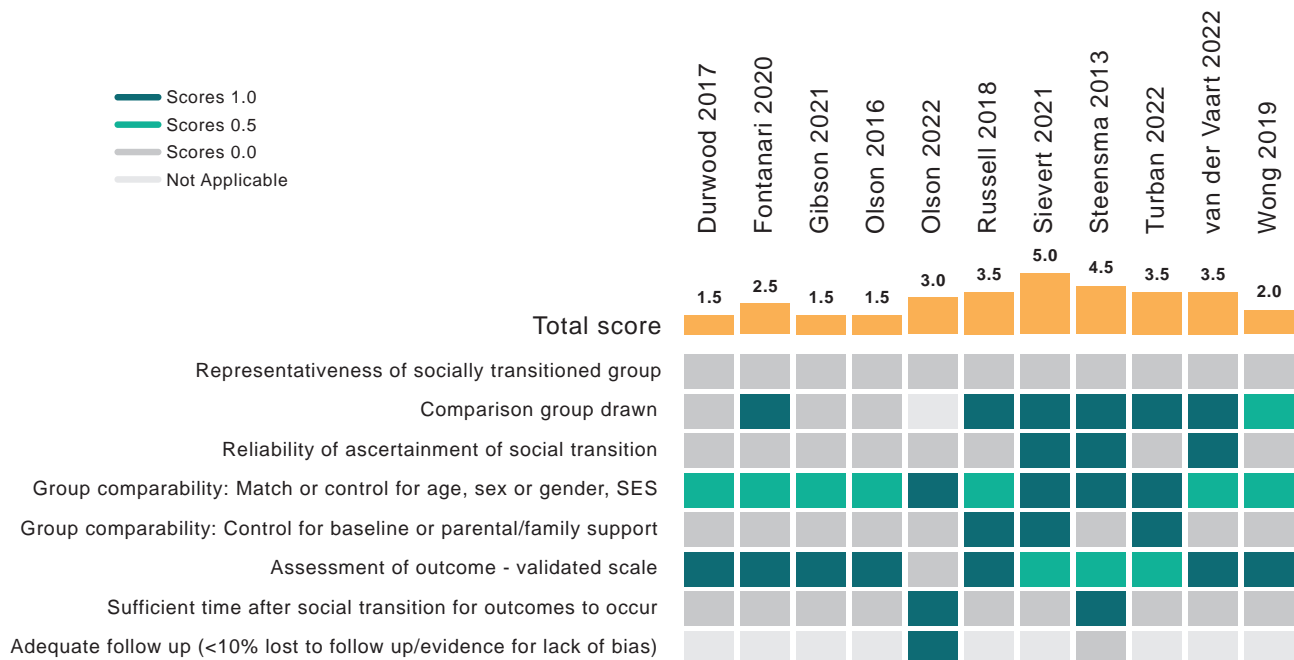
12.19 The University of York's systematic review on social transition aimed to identify and summarise evidence on the outcomes of social transition for children and adolescents with gender dysphoria. (Hall et al: Social transition).

12.20 This systematic review is a useful example demonstrating how systematic reviewers rate the quality of studies. The scale (called a modified version of the Newcastle-Ottawa Scale) was used to assess the items shown in Figure 33 and then give a summary

score for each of the studies. The maximum score is 8, a score of 0-3.5 is low quality, 4-5.5 moderate quality and 6-8 high quality.

12.21 Of the 11 studies that met the search criteria, nine were low quality (scoring between 1.5 and 3.5) and two were moderate quality (scoring between 4.5 and 5.0). The most problematic aspects were sample selection, and samples were not reliably representative of the broader population. Most studies were US based.

Figure 33: Quality scores for included studies assessed using a modified Newcastle-Ottawa Scale



Source: Hall et al: Social transition

NB: The grid indicates individual scores for each study on each of the criteria. Bars at the top (and numbers at top of bars) indicate overall score. SES: socioeconomic status.

12.22 The quality of the studies was not good enough to draw any firm conclusions, so all results should be interpreted with caution.

Mental health outcomes

12.23 Different studies looked at different outcomes of social transition. The only consistent benefit from social transition was for use of chosen name in adolescence:

- one study found this was associated with some improvements in mental health and reduced suicidality for 15-21 year-olds
- another study found that parental use of chosen name and being able to express one's gender was associated with some improvements in mental health/distress for 16-24 year-olds.

12.24 One study looking at transgender adults found that lifetime suicide attempts and suicidal ideation in the 'past year' was higher among those who had socially transitioned as adolescents compared to those who had socially transitioned in adulthood.

Gender identity outcomes

12.25 One study (Olson et al, 2022) used a self-selected community sample of children (the Trans Youth Project). Children had to be between three and 12 years of age at enrolment and had to have made a "complete" binary social transition, including changing

their pronouns to the binary gender pronouns that were not those used at their births. The study found that 93% of those who socially transitioned between three and 12 years old continued to identify as transgender at the end of the study (about 5.4 years later). Of the remainder, 2.5% were living as cisgender, 3.5% as non-binary and 1.3% had retransitioned twice. This study also demonstrated that the majority of children who had socially transitioned went on to progress to medical interventions.

12.26 Another study (Steensma et al., 2013b) found that childhood social transition was a predictor of persistence of gender dysphoria for those birth-registered male, but not those birth-registered female. In this study 96% of those birth-registered male and 54% of those birth-registered female who later desisted had not socially transitioned at point of referral and none had fully socially transitioned (see Table 8). The study noted that the possible impact of the social transition on cognitive representation of gender identity (that is, how the child came to see themselves) or on persistence had not been studied.

12.27 However, there was also an association between childhood social transition and more intense gender dysphoria, so it may be that the intensity of the dysphoria was the factor that led to persistence and the more pressing drive for the children to socially transition.

Table 8: Childhood social transition and likelihood of persistence

	PERSISTERS % (n=47)		DESISTERS % (n=80)	
	BR-M (n=23)	BR-F (n=24)	BR-M (n=56)	BR-F (n=24)
No social transition	57	42	96	54
Partial social transition	30	54	4	45
Full social transition	13	4	0	0
Total	100	100	100	100

Source: Data from Steensma et al., 2013b.

BR-M: birth-registered male | BR-F: birth-registered female

Relevance to existing guidelines

12.28 There has been a shift in recommendations between WPATH 7 (2012), which was more cautious about social transition, and WPATH 8 (2022) which argues in favour of social transition in childhood.

12.29 WPATH 8 justifies this change in stance on the basis that there is more evidence on improved mental health outcomes with social transition, that fluidity of identity is an insufficient justification not to socially transition, and that not allowing a child to socially transition may be harmful.

12.30 However, none of the WPATH 8 statements in favour of social transition in childhood are supported by the findings of the University of York's systematic review (Hall et al: Social Transition).

Summary – social transition

12.31 Given the weakness of the research in this area there remain many unknowns about the impact of social transition. In particular, it is unclear whether it alters the trajectory of gender development, and what short- and longer-term impact this may have on mental health.

12.32 Early research cited in Chapter 2 found low rates of persistence of childhood gender incongruence into adulthood, around 15% (for example, Zucker, 1985). Papers from this period were criticised because the children were not formally diagnosed using ICD or DSM. At that time, it was rare for children to have socially transitioned before being seen in clinic.

12.33 Later studies, which showed higher rates of persistence at 37% (for example Steensma et al., 2013) did use formal diagnostic criteria, but by that time a greater proportion of the referrals had socially transitioned prior to being seen.

12.34 It is not possible to attribute causality in either direction from the findings in these studies. This means it is not known whether the children who persisted were those with the most intense incongruence and hence more likely to socially transition, or whether social transition solidified the gender incongruence.

12.35 Earlier in this report it was explained that much has been learnt about the role of sex of rearing on the development of gender identity from follow-up studies of individuals with health conditions known as differences of sex development (DSD). It is helpful to recap on some of this learning when considering the role of social transition. In summary:

- Individuals who are genetically female (XX) but have high androgen levels (i.e. those with Congenital Adrenal Hyperplasia) are usually reared as females; they tend to have some male role behaviours but are most commonly heterosexual and usually have a female gender identity.
- In those with DSD in whom gender identity outcome is less well established, the sex of rearing is a better predictor of gender identity outcome than prenatal androgen exposure.
- The conclusion is that a complex interplay between prenatal androgen levels, external genitalia, sex of rearing and socio-cultural environment all play a part in eventual gender identity, and we have yet to understand the relative influence of these various elements.

12.36 The information above demonstrates that there is no clear evidence that social transition in childhood has positive or negative mental health outcomes. There is relatively weak evidence for any effect in adolescence. However, sex of rearing seems to have some influence on eventual gender outcome, and it is possible that social transition in childhood may change the trajectory of gender identity development for children with early gender incongruence. For this reason, a more cautious approach needs to be taken for children than for adolescents:

Children:

- Parents should be encouraged to seek clinical help and advice in deciding how to support a child with gender incongruence and should be prioritised on the waiting list for early consultation on this issue.
- Clinical involvement in the decision-making process should include advising on the risks and benefits of social transition as a planned intervention, referencing best available evidence. This is not a role that can be taken by staff without appropriate clinical training.
- It is important to ensure that the voice of the child is heard in any decision making and that parents are not unconsciously influencing the child's gender expression.
- For those going down a social transition pathway, maintaining flexibility and keeping options open by helping the child to understand their body as well as their feelings is likely to be advantageous. Partial rather than full transition may be a way of ensuring flexibility, particularly given the MPRG report which highlighted that being in stealth from early childhood may add to the stress of impending puberty and the sense of urgency to enter a medical pathway.

Adolescents:

- For adolescents, exploration is a normal process, and rigid binary gender stereotypes can be unhelpful. Many adolescents will go through a period of gender non-conformity in terms of hairstyle, make-up, clothing and behaviours. They also have greater agency in how they present themselves and their decision-making.
- For those considering full social transition, the current long waiting lists make it unlikely that a formal clinical assessment will be available in a timely manner. However, it is important to try and ensure that those already actively involved in their welfare (parents/carers, any involved clinical staff such as their GP, school staff or counsellors) provide support in decision making and plans to ensure that the young person is protected from bullying and has a trusted source of support.

For both children and adolescents:

- Outcomes for children and adolescents are best if they are in a supportive relationship with their family. For this reason parents should be actively involved in decision making unless there are strong grounds to believe that this may put the child or young person at risk.
- Help may be needed if a child/young person wishes to reverse their decision on transitioning, which can be a difficult step to take.

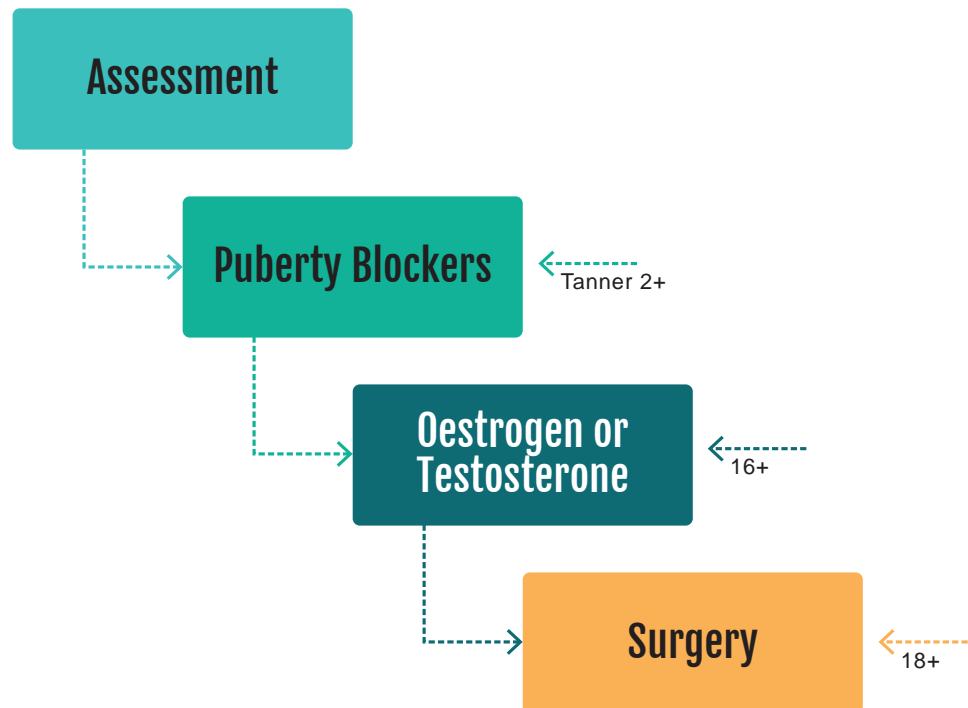
- **12.37** The clinician should help families to recognise normal developmental variation in gender role behaviour and expression. Avoiding premature decisions and considering partial rather than full transitioning can be a way of ensuring flexibility and keeping options open until the developmental trajectory becomes clearer.

Recommendation 4:

When families/carers are making decisions about social transition of pre-pubertal children, services should ensure that they can be seen as early as possible by a clinical professional with relevant experience.

13. Medical pathways

Figure 34: Outline of medical pathway at start of Review



13.1 When the Review began, the medical interventions for gender incongruence/dysphoria available on the NHS were puberty blockers followed by masculinising or feminising hormones. The history of their use was outlined in Part 2.

Perspectives from service users and families

13.2 Young people participating in the lived experience focus groups explained that while they do want access to counselling and spaces to openly explore their gender, this should be alongside not instead of the option to medically transition. They also felt there needed to be

recognition that mental health may still be a concern after starting on a medical pathway, while waiting for changes to take effect.

"I just wanted to get my bloody hormones, that was what I was there for, that's what I wanted, that would've been my therapy, all my distress was related to needing to get on hormones and I was expressing this, I had a trans history, I was clearly aware of what I wanted and what care was on offer."

Young person
Lived experience focus group

13.3 For those who are considering a medical transition, there is a strong sense among service users that this should be facilitated by the NHS, but a recognition that there is a need for better information on which to base decisions/consent.

13.4 Young people and young adults participating in the Review's focus groups highlighted a lack of reliable and accurate information about medical transition. In particular, the need to be informed of any known and unknown risks and potential side effects of hormone interventions when making informed decisions about care and treatment. Some participants felt there needed to be more information for people wanting to come off the medical pathway.

"What are the benefits, what have people who've gone through each process thought about it, what are the side-effects, what are the possible drawbacks, what is the time-scale, how reversible is it, what the process actually involves (e.g. not being able to do stuff for several months after certain surgeries), what medical professionals think about it, what everyday people who've done it think about it, what are the things nobody tells you (e.g. post-surgery dysphoria), what is the satisfaction rate (preferably with some stories of people who've done it and loved it, and some who've done it and didn't love it as much)."

Young person
Lived experience focus group

Existing endocrine practice in the UK

13.5 One of the most problematic data gaps for the Review has been trying to obtain robust data on the numbers of young people who go on to a hormone pathway at GIDS, and what care pathways or interventions are available for those who do not. This seems unacceptable in the digital age.

13.6 Our working assumption, based on original data provided to the Review, was that approximately 20% of those referred to GIDS go on to a medical pathway.

13.7 Performance data received by NHS England and shared with the Review indicated that this was probably an accurate proportion of all cases seen by the service. However, the data suggested that around 50% of these patients received only one appointment before being discharged from GIDS, usually because they had 'aged out' of the service before the assessment could be completed.

13.8 If those patients are discounted, it appeared that a significantly higher percentage of active cases (those undergoing full assessment) were being referred to endocrinology. In order to get a clear picture, the Review wrote to NHS England requesting that an audit of discharge records be undertaken.

13.9 NHS England approached NHS Arden and Greater East Midlands Commissioning Support Unit to undertake this audit on behalf of the Review and NHS England. The audit (Appendix 8) looked at discharge records of patients who had been discharged from GIDS between 1 April 2018 and 31 December 2022. This covered the period pre and post the Bell v Tavistock judgments.

13.10 The following patients were included in the data collection:

- patients who have attended at least two appointments at GIDS
- patients who have been discharged from GIDS between 01 April 2018 and 31 Dec 2022.

13.11 Of the 3,499 patients audited, 3,306 were included within the analysis. 73% were birth-registered female and 27% birth-registered male. The audit did not include patients who had received fewer than two appointments at GIDS or those who lived outside England and Wales. Headline findings from the audit were:

- Overall, 27% of patients were referred to endocrinology (34.6% of [birth-registered] males compared to 24.2% of [birth-registered] females). This equates to 584 birth-registered females and 308 birth-registered males.
- Patients received an average of 6.7 appointments prior to referral to endocrinology.
- 81.5% of patients referred into endocrinology received puberty blockers, of whom 52.5% were between 15-16 years old.

At the point of discharge from GIDS:

- 54.8% of all patients referred to endocrinology were on both puberty blockers and masculinising/feminising hormones (57.9% of [birth-registered] females compared to 47.7% of [birth-registered] males).
- For patients who initially received puberty blockers upon referral to endocrinology, 64% had gone on to receive both puberty blockers and masculinising/feminising hormones at point of discharge from GIDS.
- < 10 patients detransitioned back to their [birth-registered] gender, all of whom were female, and all but one were confirmed as having received puberty blockers as their first intervention. These patients had received an average of 6.5 appointments prior to referral to endocrinology (range 3-10 appointments).
- 89% of patients who were referred to endocrinology were discharged to an adult Gender Dysphoria Clinic (GDC).

13.12 Table 9 on the next page shows the end point intervention recorded on patients' discharge summaries: 54.8% ended up on both puberty blockers and masculinising/feminising hormones.

Table 9: Final intervention received by GIDS patients referred to endocrinology

FIRST INTERVENTION TYPE	% OF PATIENTS
Puberty blockers AND cross-sex hormones	54.8
Puberty blockers ONLY	19.9
Patient declined treatment	11.4
Accessed treatment outside of the NHS	3.9
Did not access physical treatment	3.3
Puberty assessment ONLY	2.0
Treatment withdrawn	1.5
Detransitioned/detransitioning	X
Unknown/unclear	X
Puberty blocker not started due to JR	X
Treatment recommended but supply issues (GP prescribing or pharmacy)	X
Treatment withdrawn - professional advice/side effects	X
Cross-sex hormones ONLY	X
Puberty blockers AND cross-sex hormones (privately)	X

Source: The Gender Identity Development Service Audit Report, Arden & GEM

NB: X indicates <10 patients

13.13 The GIDS audit report (Appendix 8) also sets out that 73% (2,415) of the audited patients were not referred to endocrinology by GIDS. Of these:

- 93.0% did not access any physical treatment whilst under GIDS
- 5.0% accessed treatment outside NHS protocols
- 1.5% declined treatment
- 0.5% of patients detransitioned or were detransitioning back to their [birth-registered] gender.
- 69% were discharged to an adult GDC (possibly due to ageing out of the GIDS service). It is not known how many of these went on to hormone treatment through the adult services.

13.14 The Review received reports from support and advocacy groups that some young adults who had been discharged from GIDS remained on puberty blockers into their early to mid 20s, but did not progress to masculinising/feminising hormones. A review of the audit data suggested 177 patients were discharged whilst still on puberty blockers only (that is, not with masculinising/feminising hormones), but it is not possible to tell from this data how many subsequently came off puberty blockers and/or progressed to masculinising/feminising hormones through adult or private services.

13.15 Puberty blockers are intended to be a short-term intervention and the impact of use over an extended period of time is unknown, although the detrimental impact to bone density alone makes this concerning. The Review raised this with NHS England and GIDS.

International practice

13.16 The University of York carried out a systematic review and narrative synthesis of the international care pathways of children and young people referred to specialist gender or endocrinology clinics (Taylor et al: Care pathways). This places GIDS data in a wider context.

13.17 The systematic review aimed to synthesise information on numbers referred, assessed, diagnosed and considered eligible for medical intervention, numbers who later desist or detransition, reasons for leaving the service/ pathway and provision of psychological care.

13.18 The systematic review included 23 studies across nine countries; 14 specialist gender and nine endocrinology services. A major problem in interpreting these results is that models of care differ and there is a lack of clarity in the source papers as to how individual clinics function. Some endocrinology services may receive patients who have already been assessed by a gender service, as is the case in the UK, whilst in other countries, referrals may go directly to endocrinologists. This will affect the percentage diagnosed with gender dysphoria and/or offered endocrine treatments.

Patients accessing medical pathways

13.19 The numbers of young people receiving puberty blockers was reported in 21 of the papers, with the pooled estimates from across these services being 36% of those referred (95% confidence interval 23-51%). The ages at which they received puberty suppression ranged from 9 to 18, with an average age of 15.

13.20 Across all clinics, 68% received either puberty blockers and/or masculinising/ feminising hormones, although there was very wide variability between clinics.

There was neither any information about what happened to the approximately one-third of patients who did not access an endocrine pathway, nor any information about psychological care for those under the care of the specialist gender service.

13.21 Four studies published since the systematic review search are of interest, two from the Netherlands (van der Loos et al., 2023; van der Loos et al., 2022) and two from the UK (Butler et al., 2022; Masic et al., 2022).

13.22 In the UK clinic, more birth-registered female (65%) than birth-registered male (35%) adolescents were referred to endocrinology (Masic et al., 2022). Of those adolescents referred to the endocrinology clinic, 100% consented to a medical pathway, 98% of whom were on a puberty blocker pathway and 2% directly on masculinising/feminising hormones. The mean age of consenting to puberty blockers was 15.8. Not all of those who consented went on to access endocrine treatment.

The second UK paper (Butler et al., 2022) reported on discharge outcomes; 91.7% of those discharged continued to identify as transgender or gender variant, and 86.8% were discharged to adult GDCs.

13.23 In one Dutch study (van der Loos et al., 2023), 882 adolescents received puberty blockers, again with higher rates in birth-registered females than males (73% compared to 47%). Of 707 adolescents who received puberty blockers and were eligible for masculinising/feminising hormones during follow up 93% progressed to treatment. The other Dutch study (van der Loos et al., 2022) reported a 98% progression from puberty blockers to hormones.

Patients discontinuing medical pathways

13.24 The care pathways systematic review (Taylor et al: Care pathways) reported that 0-8% of patients discontinued puberty suppression (discussed in Chapter 14) and 0-2 patients discontinued masculinising/feminising hormones.

13.25 In the two UK studies published since the University of York's systematic review search, there were no discontinuations of masculinising/feminising hormones in the first UK study (Masic et al., 2022), but in the second UK study (Butler et al., 2022) 90 (8.3% of those referred for medical treatment) stopped identifying as gender incongruent, and 58 (5.3%) stopped treatment with either puberty blockers or masculinising/feminising hormones. However, the lack of information about length of time to discharge makes interpretation difficult.

Summary – medical pathways

13.26 A common theme in examining both the GIDS and international data is how difficult it is to understand the different pathways that young people follow, what alternative options are available for those who do not follow a medical pathway, and the reasons for treatment decisions at all stages along the pathway.

13.27 The GIDS audit found that 27% of patients were referred to endocrinology, and that 89% of patients referred to endocrinology were discharged to an adult GDC.

13.28 Of the 73% of patients not referred to endocrinology, 69% of these were referred to an adult GDC.

13.29 Since it is common for people attending an adult GDC to receive masculinising/feminising hormones, it is all the more critical to get follow-up data to better understand the outcomes for those who are referred to adult GDCs and those who are not.

14. Puberty blockers

14.1 When the Review began, the medical interventions for gender incongruence/dysphoria available on the NHS were puberty blockers, followed by masculinising/feminising hormones. The history of their use was outlined in Part 2.

Normal pubertal development

14.2. Puberty begins between 8 and 13 in girls (average age 11) and between 9 and 14 in boys (average age 12). The process starts in an area of the brain called the hypothalamus.

14.3. Puberty is triggered when the hypothalamus starts a hormone cascade which results in the ovaries and testes producing oestrogen and testosterone respectively. Both males and females proceed through the 5 stages of puberty known as Tanner stages.

Table 10: Tanner stages

TANNER	MALES	FEMALES
Stage 1	<ul style="list-style-type: none"> No major physical changes yet Brain is starting to signal the body to start making changes 	
Stage 2	<ul style="list-style-type: none"> Testes begin to grow Public hair around base of penis 	<ul style="list-style-type: none"> Breast buds, darker nipple Small amount of pubic hair
Stage 3	<ul style="list-style-type: none"> Penis gets longer Thicker pubic hair Wet dreams Voice starts to change Muscles get larger Start of growth in height 	<ul style="list-style-type: none"> Breast buds increase in size More pubic hair Hair under armpits Acne Most rapid growth in height Start to increase fat on hips and thighs
Stage 4	<ul style="list-style-type: none"> Testes, penis and scrotum continue to grow, scrotum gets darker Hair in armpits Deeper voice Acne Most rapid growth in height 	<ul style="list-style-type: none"> Further breast growth First period Growth in height slows Pubic hair gets thicker
Stage 5	<ul style="list-style-type: none"> Testicles, penis, scrotum adult size Pubic hair spread to inner thighs Facial hair Growth in height slows down 	<ul style="list-style-type: none"> Adult breast size Periods more regular Adult height Hips, thighs, buttocks fill out

Rationale for the use of puberty blockers for gender dysphoria

14.4 As set out in Chapter 2, the practice of pausing puberty at Tanner Stage 2 was initiated in the Netherlands, and subsequently adopted in the UK and internationally. The idea was based on a theory from Dr Peggy Cohen-Kettenis whose initial clinical experience was in adult care. Her rationale was that pausing puberty early would help young people to ‘pass’ better in adulthood and ‘extend the diagnostic period’ by buying time to think. The use of puberty blockers for this purpose was initially reported in a single case study (Cohen-Kettenis & van Goozen, 1998) and then in the original Dutch cohort (de Vries, 2011b).

14.5 It may appear surprising that the novel use of a drug for this purpose did not require a more rigorous drug trial. This is because of the way drugs are licensed and can be used off-label (see Explanatory box 5).

14.6 GnRH hormones (referred to as puberty blockers in the treatment of young people) are licensed for patients with precocious puberty (that is, young children who enter puberty too early), as well as for the treatment of some cancers in adults and some gynaecological issues in adults. They have undergone extensive testing for use in precocious puberty (a very different indication from use in gender dysphoria) and have met strict safety requirements to be approved for this condition.

Explanatory Box 5:

Licensing, indications and contraindications

Licences are granted for a drug if strict safety and quality standards are met for its use. In the UK, licences are granted by the Medicines and Healthcare products Regulation Agency (MHRA).

An indication for a drug is a medical condition that the drug can be used to treat. Drugs are licensed for specific indications or purposes; for example, semaglutide was originally licensed for the treatment of diabetes. Recently some brands of semaglutide (Wegovy) have received additional licensing for weight loss.

If a drug is used for a purpose for which it is not licensed, this means it is being used off-label. This may be because it is considered to be effective for this indication, but the manufacturer has not gone through the processes to apply for a licence for that particular condition. For example, tetracycline, a kind of antibiotic, is licensed for a range of conditions including acne and rosacea. It is also used to treat *Helicobacter pylori*, a bacteria that infects the stomach lining and can cause stomach ulcers, but it is not licensed for that purpose.

Many drugs are not licensed for use in children, but can still be given to them safely. This is because the trials to test safety were only done in adults, so the licence specifies adult use only. In these circumstances the drug is usually given to children for exactly the same reason as for adults (for example, treatment of a severe infection).

14.7 The situation for the use of puberty blockers in gender dysphoria is different. Although some endocrinologists have suggested that it is possible to extrapolate or generalise safety information from the use of puberty blockers in young children with precocious puberty to use in gender dysphoria, there are problems in this argument. In the former case, puberty blockers are blocking hormones that are abnormally high for, say, a 7-year-old, whereas in the latter they are blocking the normal rise in hormones that should be occurring into teenage years, and which is essential for psychosexual and other developmental processes.

14.8 This approach to the use of puberty blockers in gender dysphoria has been an ongoing source of controversy both nationally and internationally.

14.9 The lack of consensus across the clinical community was highlighted by a 2015 study (Vrouenraets et al., 2015), which approached 17 multi-professional treatment teams worldwide to determine their views on use of puberty blockers. They identified seven themes on which there were widely disparate views:

- the (non-) availability of an explanatory model for gender dysphoria
- the nature of gender dysphoria (normal variation, social construct or [mental] illness)
- the role of physiological puberty in developing gender identity
- the role of comorbidity
- possible physical or psychological effects of refraining from) early medical interventions
- child competence and decision-making authority
- the role of social context in how gender dysphoria is perceived.

14.10 The professionals who participated in the study were often conflicted because they recognised the distress of young people and felt the urge to treat them, but at the same time, most had doubts because of the lack of information on long-term physical and psychological outcomes. For several participants, a reason to use puberty suppression was the fear of increased suicidality in untreated adolescents with gender dysphoria.

14.11 The authors of the study concluded that as long as debate remains on these seven themes and only limited long-term data are available, there will be no consensus on treatment. Eight years later, the position is unchanged and many of the same considerations apply to the use of masculinising/feminising hormones in young people.

International practice

14.12 The synthesis of international guidelines by the University of York (Hewitt et al: Guidelines 2: Synthesis) found that there is no clarity about the treatment aims of puberty suppression, with options including reducing gender dysphoria, improving quality of life, allowing time to make decisions, supporting gender exploration, extending the diagnostic phase and 'passing' better in adult life.

14.13 Most guidelines emphasise full reversibility as a justification for their use, whilst highlighting potential adverse effects on bone health and uncertainty regarding cognitive development.

14.14 Where eligibility is discussed, the earlier requirement to wait for the patient to reach age 12 before they can access puberty blockers has been removed from some guidelines (for example, WPATH 8). The majority of guidelines recommend waiting until a child has reached Tanner Stage 2 of puberty. The Swedish guideline recommends Tanner Stage 3.

14.15 There is also considerable variation about the criteria for starting puberty blockers, with the commonest being the presence of gender dysphoria that has emerged or worsened at puberty. Only two guidelines specified the need for gender incongruence rather than dysphoria. Several specified that mental health difficulties should be managed and/or were unlikely to impact treatment. Another specification in several guidelines was that the young person has decision-making capacity, parental consent is obtained and/or that there is family social support.

14.16 The Swedish and Finnish guidelines differ from others in recommending that puberty suppression should be provided under a research protocol or the supervision of a research clinic.

14.17 The international survey (Hall et al: Clinic survey) looked at what is happening in practice. All clinics offered puberty blockers and masculinising/feminising hormones apart from one regional service. Menstrual suppression with progestogens (the contraceptive pill) was routine in four clinics.

14.18 Most clinics required a diagnosis of gender dysphoria or incongruence, reaching Tanner stage 2 and stable mental health for

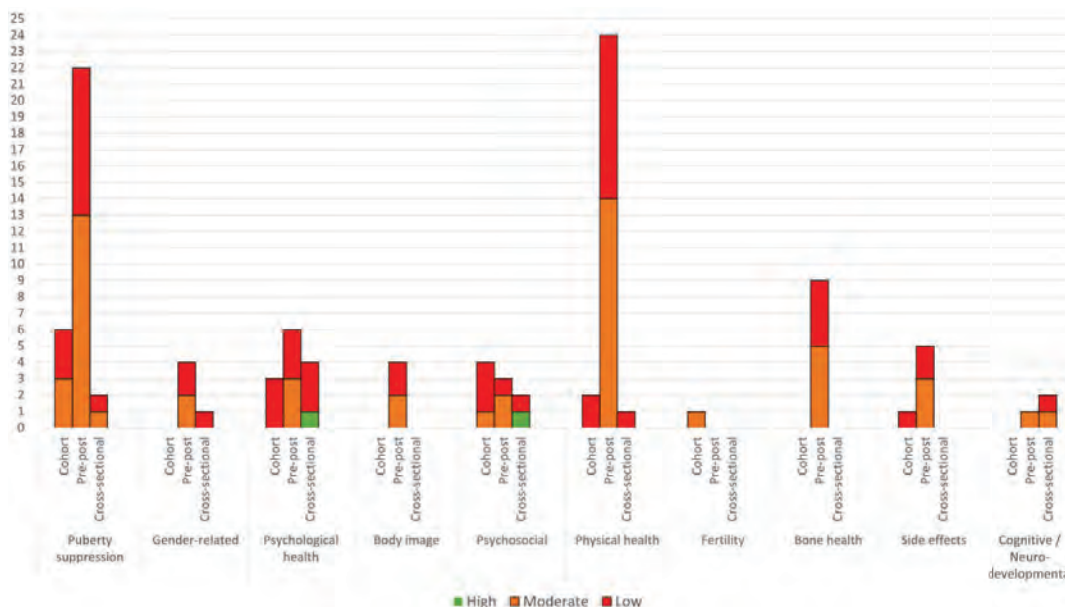
puberty blockers. Belgium, Finland, Denmark and Norway required gender dysphoria/ incongruence to have been long-lasting/since childhood and Finland specified that distress had to intensify in puberty. Five clinics excluded those in late puberty from having blockers.

Understanding intended benefits and risks of puberty blockers

14.19 The systematic review on interventions to suppress puberty (Taylor et al: Puberty suppression) provides an update to the NICE review (2020a). It identified 50 studies looking at different aspects of gender-related, psychosocial, physiological and cognitive outcomes of puberty suppression. Quality was assessed on a standardised scale. There was one high quality study, 25 moderate quality studies and 24 low quality studies. The low quality studies were excluded from the synthesis of results.

14.20 A large proportion of the studies only looked at how well puberty was suppressed (expected effects) and at side effects, with fewer looking at the other intended outcomes. There was evidence from multiple studies that puberty suppression exerts its expected physiological effect, and this has never been at issue.

Figure 35: Outcome categories by study quality and design (puberty blockers)



Source: Taylor et al: Puberty Suppression

Intended benefits

14.21 As set out in Explanatory box 5, an indication for a drug is the purpose for which it is prescribed. As the Review has progressed it has become more difficult to be clear about the indications for puberty blockers in this population of young people.

14.22 As explained above, when the Dutch gender clinic first started using puberty blockers to pause development in the early stages of puberty, it was hoped that this would lead to a better cosmetic outcome for those who went on to medical transition and would also aid diagnosis by buying more time for exploration. Since then, other proposed benefits have been suggested, including improving dysphoria and body image, and improving broader aspects of mental health and wellbeing.

Buying time to think/explore

14.23 The University of York's systematic review of care pathways (Taylor et al: Care pathways) reported that 0-8% of young people discontinued puberty suppression. Compared to those who continued with treatment, young people who discontinued had initiated treatment at an older age and included a higher proportion of those with mental health and autism spectrum conditions. In the gender clinic with a discontinuation rate of 8% (6 of 73), median age at start of treatment was 15.2 years (range 15.0-15.6 years) and all were post-pubertal at presentation.

14.24 In the UK early intervention study (Carmichael et al., 2021), 98% (43 of 44) of those who started on puberty suppression progressed to masculinising/feminising hormones. A more recent discharge study (Butler et al., 2022) looked at 1,089 patients referred from GIDS to the paediatric endocrine clinic. It showed that 7.4% (16 of 217) of those under 16 at referral discontinued puberty blockers.

14.25 These data suggest that puberty blockers are not buying time to think, given that the vast majority of those who start puberty suppression continue to masculinising/feminising hormones, particularly if they start earlier in puberty. It was on the basis of this finding that the High Court in *Bell vs Tavistock* suggested that children/young people would need to understand the consequences of a full transition pathway in order to consent to treatment with puberty blockers ([2020] EWHC 3274 (Admin)).

Reducing gender dysphoria/improving body satisfaction

14.26 Only two moderate quality studies looked at gender dysphoria and body satisfaction; the original Dutch protocol (de Vries et al., 2011b) and the UK early intervention study (Carmichael et al., 2021). Neither reported any change before or after receiving puberty suppression.

Psychological and mental health improvements

14.27 As outlined in Chapter 2, the original Dutch protocol (de Vries et al., 2011b) found improvements in mental health in a pre-post study without a comparison group, but the GIDS early intervention study (Carmichael et al., 2021) did not replicate this finding. The systematic review on interventions to suppress puberty (Taylor et al: Puberty suppression) identified one other good quality study (van der Miesen et al., 2020), which produced an intermediate result with improvements in some mental health measures but not others.

14.28 The University of York concluded that there is insufficient and/or inconsistent evidence about the effects of puberty suppression on psychological or psychosocial health. This is in line with the finding of the NICE review (2020) and other systematic reviews, apart from the systematic review commissioned by WPATH (Baker et al., 2021), which reported some benefit. However, in the latter systematic review,

eight of the 12 studies reporting psychological outcomes were rated as low quality, which may explain the difference.

14.29 It is often the case that when an intervention is given outside a randomised control trial (RCT), a large treatment effect is seen, which sometimes disappears when an RCT is conducted. This is especially the case when there is a strong belief that the treatment is effective. The fact that only very modest and inconsistent results were seen in relation to improvements in mental health, even in the studies that reported some psychological benefits of treatment with puberty blockers, makes it all the more important to assess whether other treatments may have a greater effect on the distress that young people with gender dysphoria are suffering during puberty.

Cosmetic outcomes/‘passing’ in adult life

14.30 The Multi-Professional Review Group (MPRG) request a letter from young people being put forward for puberty blockers so they can ensure that they hear the young person’s voice and understand their aspirations. The MPRG have now reviewed approximately 200 such letters. As explained in Chapter 12, many young people are living ‘in stealth’ and consequently often in a state of considerable anxiety about developing pubertal changes that may ‘out’ them to their friends. However, since most young people are not starting puberty blockers until the age of 15 and above, it is unclear how helpful they might be in maintaining stealth, particularly for birth-registered girls who will often be in the later stages of puberty by that time.

14.31 In the longer-term, being able to ‘pass’ is of great importance to some transgender adults, and not to others. Although there is a lack of long-term outcome data for children and young people in adult life, the Review team has been able to talk to both young people and older adults about their experience of early access to puberty blockers. This has been particularly important for the transgender women, who were able to access puberty blockers before developing facial hair and dropping their voice.

14.32 In terms of helping young people to ‘pass’ in adult life, an important question is what impact puberty blockers might have on adult height for those who subsequently go on to masculinising/feminising hormones. Evidence to date suggests that puberty blockers neither lead to substantially reduced adult height in transgender females (Boogers et al., 2022), nor increased eventual height in transgender males (Loi-Koe et al., 2018). This is an important issue for further research.

Risks

14.33 When the use of puberty blockers was introduced by the Dutch clinic, the target population was patients who had been gender incongruent since childhood. Prior to the introduction of puberty blockers, the clinical experience of that group suggested that although in the vast majority the gender incongruence resolved by puberty, for those for whom persisted into puberty, a long-term transgender identity was more likely.

14.34 For the more recently presenting population of predominantly birth-registered females who develop gender dysphoria in early to mid-puberty, there is even less understanding of what in medical terms is called the ‘natural history’ of their gender dysphoria (that is, what would happen without medical intervention). Because an intervention intended for one group of young people (predominantly pre pubertal birth-registered males) has been

given to a different group, it is hard to know what percentage of these young people might have resolved their gender-related distress in a variety of other ways.

14.35 Earlier, this Report set out the very complex events that take place in the adolescent brain during puberty. Neuroscientists believe that these changes are driven by a combination of chronological age and sex hormones. Blocking the release of these sex hormones could have a range of unintended and as yet unidentified consequences.

Altering the trajectory of development of sexuality and gender identity

14.36 Adolescence is a time of overall identity development, sexual development, sexual fluidity and experimentation.

14.37 Blocking this experience means that young people have to understand their identity and sexuality based only on their discomfort about puberty and a sense of their gender identity developed at an early stage of the pubertal process. Therefore, there is no way of knowing whether the normal trajectory of the sexual and gender identity may be permanently altered.

Impact on neurocognitive development

14.38 A further concern, already shared with NHS England (July 2022) (Appendix 6), is that adolescent sex hormone surges may trigger the opening of a critical period for experience-dependent rewiring of neural circuits underlying executive function (i.e. maturation of the part of the brain concerned with planning, decision making and judgement). If this is the case, brain maturation may be temporarily or permanently disrupted by the use of puberty blockers, which could have a significant impact on the young person's ability to make complex risk-laden decisions, as well as having possible longer-term neuropsychological consequences.

14.39 The University of York's systematic review identified one cross-sectional study that measured executive functioning. This found no difference between adolescents who were treated with puberty blockers for less than one year compared to those not treated, but found worse executive functioning in those treated for more than one year compared to those not treated.

14.40 A recent review of the literature on this topic found very limited research on the short-, medium- or longer-term impact of puberty blockers on neurocognitive development (Baxendale, 2024).

Impact on subsequent genital surgery

14.41 If puberty suppression is started too early in birth-registered males it can make subsequent vaginoplasty (creation of a vagina and vulva) more difficult due to inadequate penile growth. In some transgender females this has necessitated the use of gut in place of penile tissue, which has a higher risk of surgical complications.

14.42 A recent paper suggests that for transgender females it is recommended to wait until Tanner Stage 4 to allow adequate penile growth for vaginoplasty (Lee et al., 2023).

Other physical health impacts

14.43 Multiple studies included in the systematic review of puberty suppression (Taylor et al.: Puberty suppressants) found that bone density is compromised during puberty suppression, and height gain may lag behind that seen in other adolescents. However, much longer-term follow-up is needed to determine whether there is full bone health recovery in adulthood, both in those who go on to masculinising/feminising hormones and those who do not.

14.44 The same is true of other short-term physical effects of puberty suppression, with little knowledge about whether it leads to any long-term effects, such as on metabolic health and weight.

Prolonged exposure to puberty suppression

14.45 Puberty suppression was never intended to continue for extended periods, so the complex circumstances in which young people may remain on puberty blockers into adulthood is of concern. In some instances, it appears that young adults are reluctant to stop taking puberty blockers, either because they wish to continue as non-binary, or because of ongoing indecision about proceeding to masculinising or feminising hormones. For others, there may have been a delay in adult services taking over their care.

Summary – puberty blockers

14.46 There are many reports that puberty blockers are beneficial in reducing mental distress and improving the wellbeing of children and young people with gender dysphoria, but as demonstrated by the systematic review the quality of these studies is poor.

14.47 The Review has heard that the widespread claims that puberty blockers reduce the risk of death by suicide in this population may place pressure on families to obtain private treatment.

14.48 The Review has also heard from GPs who have been put under pressure to continue prescribing such treatments on the basis that failing to do so will put young people at risk of suicide.

14.49 The University of York systematic review found no evidence that puberty blockers improve body image or dysphoria, and very limited evidence for positive mental health outcomes, which without a control group could be due to placebo effect or concomitant psychological support.

14.50 It is important not to lose sight of the fact that hormonal surges are a normal part of puberty and are known to lead to mood fluctuations and depression, the latter particularly in girls.

14.51 It is not unexpected that blocking these surges may dampen distress and improve psychological functioning in the short-term in some young people, but this may not be an appropriate response to pubertal discomfort.

14.52 Conversely, a known side effect of puberty blockers on mood is that it may reduce psychological functioning. This variability in individual response to predicted physiological effects is reflected in the secondary analysis of the GIDS early intervention study (McPherson & Freedman, 2023).

14.53 The very strongly held beliefs amongst some young people and parents/carers that puberty blockers are highly efficacious may be attributed to a number of factors:

- the support for this position in published papers and from some clinicians working in the field
- signposted information and advice provided to children, young people and their families on the perceived benefits, including on social media
- the fact that puberty blockers have come to be seen as the entry point into and start of a transgender treatment pathway
- a lack of information about the limitations of the evidence base
- the lack of other options offered to address symptoms of distress and bodily discomfort.

14.54 The focus on puberty blockers and beliefs about their efficacy has arguably meant that other treatments (and medications) have not been studied/developed to support this group, doing the children and young people a further disservice.

14.55 Studies should evaluate whether simple measures such as stopping periods with the contraceptive pill have the potential to manage immediate distress, as well as other more conventional evidence-based techniques for managing depression, anxiety and dysphoria. None of these alternative approaches preclude continuing on a transition pathway, but they may be more effective measures for short-term management of distress.

14.56 Transgender males masculinise well on testosterone, so there is no obvious benefit of puberty blockers in helping them to 'pass' in later life, particularly if the use of puberty blockers does not lead to an increase in adult height.

14.57 For transgender females, there is benefit in stopping irreversible changes such as lower voice and facial hair. This has to be balanced against adequacy of penile growth for vaginoplasty, leaving a small window of time to achieve both these aims.

14.58 In summary, there seems to be a very narrow indication for the use of puberty blockers in birth-registered males as the start of a medical transition pathway in order to stop irreversible pubertal changes. Other indications remain unproven at this time.



15. Masculinising/feminising hormones

15.1 The use of masculinising/feminising hormones in transgender adults was pioneered by Magnus Hirshfield in the first half of the 20th century. It is a well-established practice that has transformed the lives of many transgender people.

15.2 Treatment with masculinising/feminising hormones is not without long-term problems and side effects, but for those who have undergone a successful transition, the physical costs are dramatically outweighed by the long-term benefits.

15.3 The use of masculinising/feminising hormone in those under age 18 is a more recent development that started in the late twentieth century (Carswell et al., 2022), so is less well understood. As set out in Part 3, it is not the practice of masculinising/feminising hormones that has changed more recently, but the heterogeneous population of people seeking this treatment.

15.4 Studies looking at outcomes of those taking masculinising/feminising hormones are not straightforward. As is the case with puberty blockers, the desired effects - in this case masculinisation/feminisation - are predictable and well understood. Understanding side effects and longer-term complications are important for the health of the transgender community, but in terms of patient choice are unlikely to have a major impact on treatment decisions.

15.5 The key questions are therefore, what are the short- and long-term outcomes in terms of mental health, psychosocial functioning, quality

of life and satisfaction with gender transition including sexual functioning?

International practice

15.6 The University of York's synthesis of commissioned guidelines (Hewitt et al: Guidelines 2: Synthesis) found that almost all international guidelines discuss the use of masculinising/feminising hormones.

15.7 Most require that gender dysphoria or incongruence has persisted over time and that an individual has the capacity to consent to taking these hormones as part of their treatment. Most also reference age 16 as a typical starting point, but a smaller number specify this as a minimum age.

15.8 In some guidelines, other requirements are that mental health difficulties are managed/ unlikely to impact treatment. Some guidelines require parental consent and/or family/social support.

15.9 Only the Swedish and Finnish guidelines recommend that hormone treatment is given under a research framework or in exceptional circumstances.

15.10 The majority of guidelines recommend providing information on the impact of hormones and surgery on fertility, and fertility preservation measures.

15.11 The Swedish and WPATH guidelines mention the need to support those who discontinue treatment or detransition, but no detail is provided on how this should be managed.

15.12 Most guidelines recommend that gender is viewed as a spectrum, but only three discuss treatment for those who identify as non-binary. The Swedish and Norwegian guidelines do not recommend hormone treatments in this group due to lack of evidence, whilst WPATH recommends providing tailored hormones treatments in a separate chapter on non-binary people, rather than in the adolescent chapter, so it is unclear if this applies to adults only or includes adolescents.

15.13 The international survey (Hall et al: Clinic survey) found that in practice most gender clinics require stable mental health in those prescribed masculinising/feminising hormones. Some clinics have no minimum ages, and the range for those that do is 14-16. There is also variation in the required duration of gender dysphoria, ranging from since childhood to long-lasting/permanent and stable, or stable over two years.

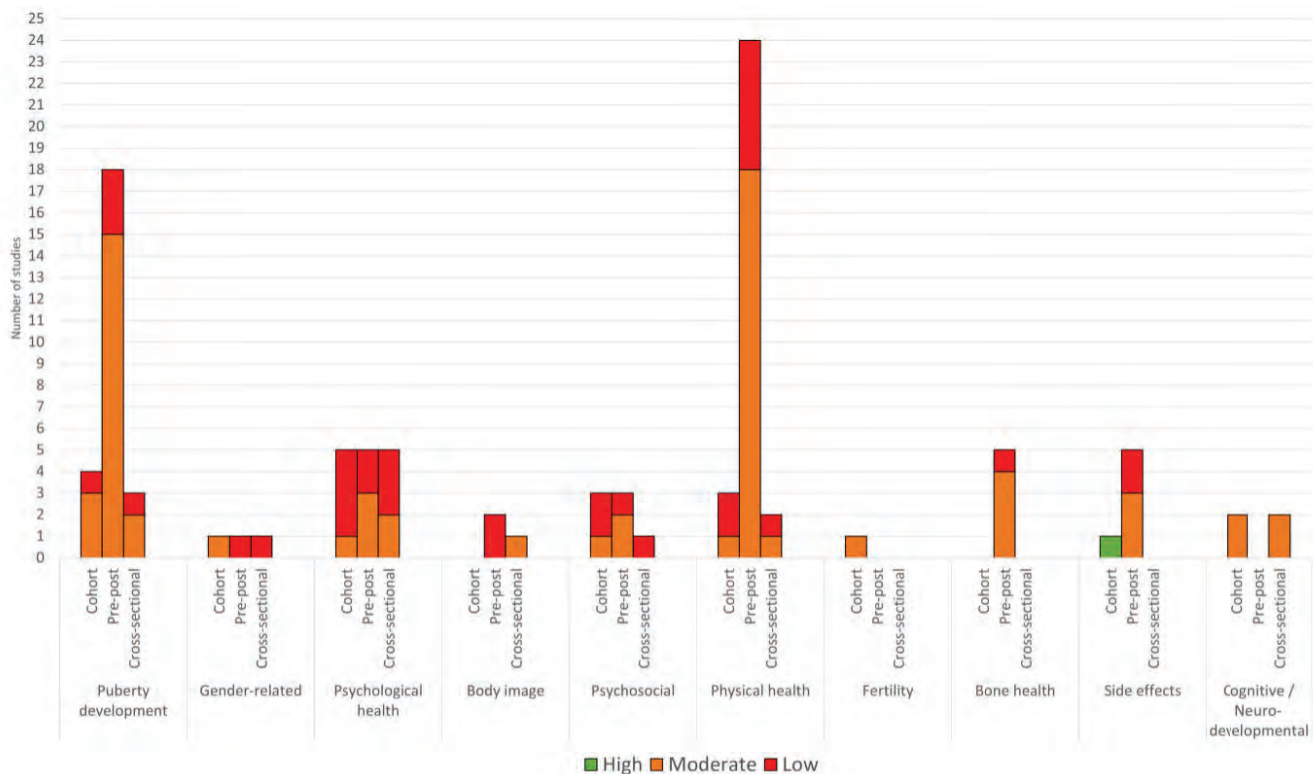
15.14 Most gender clinics provide access to fertility preservation services.

Understanding the evidence

15.15 In addition to the systematic review on care pathways (Taylor et al: Care pathways) discussed in Chapter 13, the University of York conducted a systematic review of the use of masculinising/feminising hormones in adolescents with gender dysphoria (Taylor et al: Masculinising/feminising hormones).

This systematic review aimed to synthesise the evidence for gender-related, psychosocial, physiological or cognitive outcomes for the use of feminising/masculinising hormones in adolescents with gender dysphoria/incongruence.

Figure 36: Outcome categories by study quality and design (masculinising/feminising hormones)



Source: Taylor et al: M/F hormones

15.16 A total of 53 studies met the inclusion criteria. The most frequently reported outcomes were adverse physical health outcomes and the intended development of puberty in the identified gender. A smaller number of studies looked at side effects in relation to bone health and fertility.

15.17 Psychological/mental health was measured in 15 studies, psychosocial in seven, and cognitive outcomes in four. Gender dysphoria and body satisfaction were each measured in three studies.

15.18 The only high-quality study identified by the systematic review was one that looked at side effects. All the rest were moderate or low quality.

15.19 The studies had many methodological problems including the selective inclusion of patients, lack of representativeness of the population, and in many of the studies there were no comparison groups. Where there was a comparison group, most studies did not control for key differences between groups.

15.20 As expected, hormone treatment induced puberty in the desired gender. Inconsistent results were found for height/growth, bone health and cardiometabolic health. Evidence relating to gender dysphoria, body satisfaction, psychosocial and cognitive outcomes was insufficient to draw clear conclusions. No study assessed fertility in birth-registered females.

15.21 There was moderate quality evidence from mainly pre-post studies that hormone treatment may improve psychological health in the short-term.

15.22 There were inconsistencies regarding suicidality and/or self-harm, with three of four studies reporting an improvement and one no change.

15.23 A significant weakness of the studies evaluating psychological or psychosocial function was the short follow-up interval, with many following-up for less than 1 year, and a smaller number for up to 3 years.

15.24 The University of York also looked at studies published since the original search for the systematic review. Two further studies were reported, which added to the moderate quality evidence that hormones may improve psychological health.

15.25 Overall, the systematic review authors concluded that: "There is a lack of high-quality research assessing the outcomes of hormone interventions in adolescents with gender dysphoria/incongruence, and few studies that undertake long-term follow up. No conclusions can be drawn about the effect on gender dysphoria, body satisfaction, psychosocial health, cognitive development, or fertility. Uncertainty remains about the outcomes for height/growth, cardiometabolic and bone health. There is suggestive evidence from mainly pre-post studies that hormone treatment may improve psychological health although robust research with long-term follow-up is needed". This is in line with other systematic reviews published previously (Ludvigsson et al., 2023).

Key considerations

Mental health and psychosocial outcomes

15.26 It is not just the methodological issues highlighted that make it hard to draw firm conclusions about the role of masculinising/feminising hormones in mental health and psychosocial outcomes. There are important clinical considerations that complicate the picture.

15.27 When a young person has been on puberty blockers, a short-term boost in mental wellbeing is to be expected when sex hormones are introduced. Testosterone is faster to produce physical changes than oestrogen, and birth-registered girls can expect to start seeing body changes in line with their identified gender within a few months. The start of long anticipated physical changes would be expected to improve mood, at least in the short term, and it is perhaps surprising that there is not a greater effect size. However, much longer-term follow-up is needed to understand the full psychological impact of medical transition.

15.28 Discussions in Chapter 11 touched on whether mental health problems may be caused by gender dysphoria and minority stress or whether in some instances a range of adverse childhood experiences and stressors could lead to gender-related distress. Regardless of causality, the focus should be on treating all the young person's needs, rather than expecting that hormone treatment alone will address longstanding mental ill health.

15.29 This point is illustrated in a recent Australian paper (Elkadi et al., 2023), which reviewed outcomes of a clinic cohort of young people 4-9 years post presentation. At initial assessment 70 of 79 (88.6%) received comorbid mental health diagnoses or displayed other indicators of psychological distress. A diagnosis of gender dysphoria was received by 68 young people who were deemed eligible for a gender-affirming pathway. Of these, six stopped medical treatment, three while on puberty blockers alone and three after starting on masculinising/feminising hormones. Where follow-up data were available, ongoing mental health concerns were reported by 44 of 50 participants (88.0%), and educational/occupational outcomes varied widely.

15.30 Recent national register-based studies from Finland and Denmark have been published that examine mental health needs of people presenting to specialist gender services before and after treatment. Using data from a national health register is a much more robust way of capturing total population data. Both studies compared those presenting to the gender services with age-matched controls.

15.31 The Danish national register-based study of 3,812 transgender people examined a range of outcomes in routine health records compared to age-matched controls (Glintborg et al., 2023). This was a mixed group of adults and children/young people. Follow-up was a maximum of 10 years after diagnosis.

15.32 At baseline, transgender persons were five times more likely than controls to have mental health disorders. The proportion of transgender persons with a prescription for psychopharmacological agents (medications to treat mental health) increased from less than 20% at baseline to more than 30% during follow-up. After the first year of treatment, there was a decreasing trend for the risk of mental and behavioural disorders in transgender persons, but they still remained at higher risk than controls throughout follow-up, especially transgender persons registered male at birth.

15.33 This demonstrates how difficult it is to separate out and understand the impact of the various elements of care; for example, the extent to which psychopharmacological treatments improve mental health, and how much of the improvements is a result of gender-affirming treatment.

15.34 The Finnish paper (Russka et al., 2024) identified 3,665 individuals between 1996 and 2019. Again, this was a mixed group of children, young people and adults. The gender dysphoria group had received many times more specialist-level psychiatric treatments, both before and after contacting gender services, than their matched controls. There was also a marked increase over time in psychiatric needs in 2016-2019 compared to 1996-2000. The need for psychiatric support persisted, regardless of gender-affirming treatment.

15.35 In summary, both young people and adults presenting with gender dysphoria often have complex additional mental health needs. It is hard to know the extent to which hormone treatment mitigates these issues, and the role played by treatment and support in the additional ongoing mental health issues.

Suicidality

15.36 As discussed in Part 3, it is well established that children and young people with gender dysphoria are at increased risk of suicide, but suicide risk appears to be comparable to other young people with a similar range of mental health and psychosocial challenges. Some clinicians feel under pressure to support a medical pathway based on widespread reporting that gender-affirming treatment reduces suicide risk. This conclusion was not supported by the above systematic review.

15.37 Commonly suggested reasons for the suicidality in the gender diverse population are:

- the inherent distress from the gender dysphoria
- minority stress due to discrimination and bullying
- distress caused by delayed access to medical treatment

- underlying co-occurring mental health problems that are common in the population.

15.38 A systematic review of suicide-related outcomes following gender-affirming treatment (Jackson, 2023) reported that in a majority of studies there was a reduction in suicidality following gender-affirming treatment. However, there were major methodological problems in most of the studies, with the biggest problem being a failure to adequately control for the presence of psychiatric comorbidity and treatment, such that no firm conclusions could be drawn.

15.39 A UK paper (Lavender et al., 2023) reporting a retrospective analysis of 38 children who had received puberty blockers followed by masculinising/feminising hormones noted that suicidality and self-harm showed a general decrease. However, there had been 109 eligible participants, and of the 38 included in the study only 11 had completed the suicidality/self-harm questions, rendering this observation flawed.

15.40 The authors of a paper reporting on psychosocial outcomes of 315 young people treated with masculinising/feminising hormones (Chen et al., 2023) stated that the most common adverse event was suicidal ideation (11 participants [3.5%]) and two participants [0.6%] died by suicide. Suicidality at baseline was one of the exclusion criteria for this study.

15.41 A paper from the Belgium gender clinic reported five deaths by suicide among 177 adolescents clients aged 12-18 years who were seen between 2007 and 2016 (Van Cauwenberg et al., 2021) All five had commenced on masculinising/feminising hormones.

15.42 Another recent paper (Ruuska, 2024), compared deaths by suicide in young people who had been seen in the Finnish national gender service with age-matched controls. The study also did not find a statistically

significant link between hormone treatment and reduced risk of suicide. However, there was a statistically significant relationship between a high rate of co-occurring mental health difficulties and increased suicide. Because suicides were fortunately very rare events, regardless of transition status, it is hard to draw firm conclusions from this study.

15.43 In summary, the evidence does not adequately support the claim that gender-affirming treatment reduces suicide risk. However, the distress is real for these children and young people, some of whom hold strong beliefs about the efficacy of both puberty blockers and masculinising/feminising hormones. This will be exacerbated by long waits to be seen in specialist gender services with only internet and peer group sources of support and information, and without access to clinical advice on the range of available options to manage their distress. Thus, fear that delayed access to medical treatment may lead to suicidal thoughts and behaviours remains high in parents and clinicians, and this is regardless of how effective the treatments may be once accessed.

Detransition

15.44 The term detransition is generally used to describe people who have previously medically/surgically transitioned and then reverted to their birth registered gender. It is not necessarily applied to those who have a period of trans identification, potentially with a social transition, and later revert to live as their birth-registered gender. This tends to be referred to as 'desistance'.

15.45 During the lifetime of the Review, the term trans has moved from being a quite narrow definition to being applied as an umbrella term to a broader spectrum of gender diversity. This clearly has implications for conceptualisations of detransition.

15.46 Narratives around detransition and regret have become increasingly fraught and weaponised in the time since the Review started. Initially, the Review heard from those who strongly support gender-affirming care and contested that cases are vanishingly rare and are mostly a response to lack of acceptance and minority stress.

15.47 Over time there has been an increasing acceptance that people choose to detransition for many reasons. The term has been rebadged by some as 'retransition'. Some young adults who have detransitioned have told the Review that they would not want their experience to be used to invalidate that of other people.

"I felt like it wasn't, you know, acceptable to go back. It wasn't a thing to go back, you know. It wasn't something that was talked about. It didn't feel like an option that they wanted to discuss or even mention [...] I want detransition to be something that can be openly talked about, and regret to be openly talked about."

Young person

University of York Qualitative Summary

15.48 Young people may also choose to stop hormone treatment but carry on identifying as transgender or non-binary.

15.49 A retrospective case note review from an NHS adult GDC (Hall et al., 2021) reported on the outcomes of 175 consecutively discharged service users; 12 cases (6.9%) met the criteria for detransitioning, and a further six had some ongoing uncertainties about their gender identities or treatment goals.

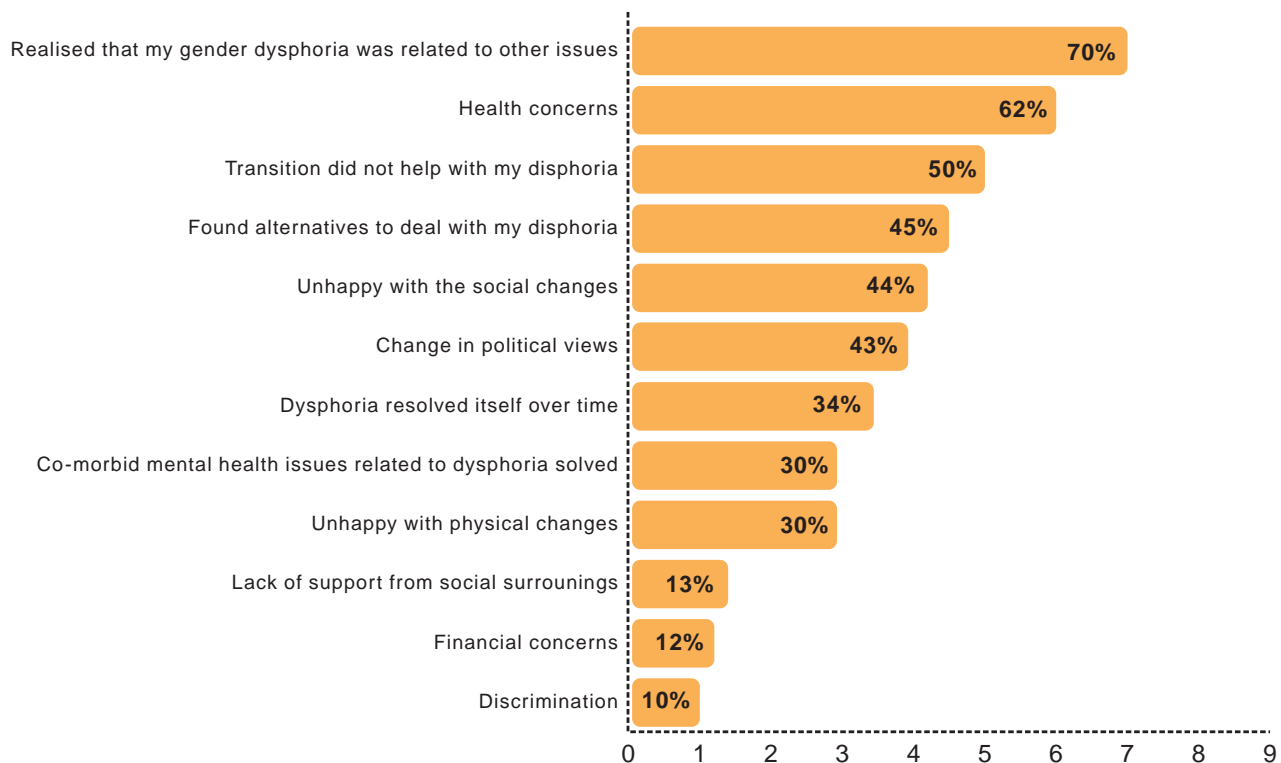
15.50 Estimates of the percentage of individuals who embark on a medical pathway and subsequently have regrets or detransition are hard to determine from GDC clinic data alone. There are several reasons for this:

- those who do detransition may not choose to return to the gender clinic and are hence lost to follow-up
- the Review has heard from a number of clinicians working in adult gender services that the time to detransition ranges from 5-10 years, so follow-up intervals on studies on medical treatment are too short to capture this
- the inflection point for the increase in presentations to gender services for children and young people was 2014, so even studies with longer follow-up intervals will not capture the outcomes of this more recent cohort.

15.51 One primary care audit from a multi-site general practice sited near a university (Boyd et al., 2022) reported on a cohort of 68 patients at various stages along the gender pathway with a mean age 27.8 years. Of 41 patients who were started on hormones, eight (20%) chose to stop after a mean period of 5 years (range 17 months to 10 years). These comprised six trans men and two trans women.

15.52 Regardless of the numbers who detransition, reasons for detransition are complex, and there is a lack of adequate service provision for this group of individuals who have a range of physical and psychological needs.

15.53 A self-identified sample of 100 detransitioners (Littman, 2021) completed an anonymous online questionnaire. Of these, 69% were birth-registered females and 31% were birth-registered males. A range of issues were reported prior to onset of gender dysphoria, including diagnosis of mental illness, neurodiversity, a history of trauma or self-injury. Reasons for detransition were diverse and included individuals becoming more comfortable in their natal sex, being concerned about medical complications of transitioning, that mental health did not improve during transitioning, being dissatisfied with physical results, and discovering gender dysphoria was caused by something specific such as trauma or abuse. Homophobia or difficulty accepting themselves as lesbian, gay or bisexual was expressed by 23.0% as a reason for transition and subsequent detransition.

Figure 37: Self-reported reasons for detransitioning

Source: Vandebussche, E. (2021). *Detransition-related needs and support: A cross-sectional online survey*. *Journal of Homosexuality*, 69(9), 1602–1620. <https://doi.org/10.1080/00918369.2021.1919479>. Published with <http://creativecommons.org/licenses/by-nc/4.0/> license by Taylor & Francis Group, LLC.

15.54 Figure 37 shows some of the reasons given for detransitioning in response to a cross-sectional online survey of 237 self-identified participants (Vandebussche, 2022).

15.55 An audit was undertaken at The Tavistock and Portman GDC on the characteristics of individuals who had detransitioned. Most papers on detransition are based on community samples, and questionnaire reports, but this was a case series of 40 patients who had all been examined by a psychiatrist.

15.56 Findings from the audit were discussed with the Review. The time for people to choose to detransition was 5-10 years (average 7 years). Common presenting features and risk factors such as high levels of adverse childhood

experiences, alexithymia (inability to recognise and express their emotions) and problems with interoception (making sense of what is going on in their bodies) were identified in the audit, and this audit would be informative for clinicians assessing young people with a view to starting masculinising/feminising hormones. The Review asked to have access to this audit in order to understand some of the qualitative findings, but the trust did not agree to this.

Long-term outcomes

15.57 One of the major difficulties with planning interventions for children and young people is the very limited evidence on the longer-term outcomes for people who have accessed GIDS.

15.58 When clinicians talk to patients about which interventions may be best for them, they usually talk about the longer-term benefits and risks of different options, based on outcome data from other people who have been through a similar care pathway. This information is not currently available for interventions in children and young people with gender incongruence or gender dysphoria, so young people and their families have to make decisions without an adequate picture of the potential impacts and outcomes.

15.59 A strand of the research the Review commissioned from the University of York was a data linkage study. The study aimed to use existing data held by the NHS, including data from GIDS, hospital wards, outpatient clinics, emergency departments and NHS adult GDCs, to track the journeys of all young people (approximately 9,000) referred to the GIDS service through the system to provide a population-level evidence base of the different pathways people take and the outcomes.

15.60 This type of research is usual practice in the NHS when looking to improve health services and care received. However, this has not been the case for gender-questioning children and young people and the hope was that this data linkage would go some way to redress this imbalance.

15.61 The study received ethics approval from the Health Research Authority (HRA), a process that took over a year. While the methodology proposed for the research is not particularly unusual, the robust scrutiny and consideration its Research Ethics Committee (REC) and Confidentiality Advisory Committee (CAG) applied to the study was entirely appropriate given the sensitivity of the subject matter.

15.62 The University of York undertook stakeholder engagement and developed the patient notifications and communications resources to explain the research and provide information about how to opt-out of the study should an individual choose to do so. It was at the point of trying to launch the 3-month opt-out period that the NHS gender clinics indicated their unwillingness to participate.

15.63 In January 2024, the Review received a letter (Appendix 11) from NHS England stating that, despite efforts to encourage the participation of the NHS gender clinics, the necessary co-operation had not been forthcoming.

15.64 This research represents a unique opportunity to provide further evidence to assist young people, their parents/carers and the clinicians working with them to make informed decisions about the right pathway for them.

15.65 Although retrospective research is never as robust as prospective research, a prospective study would take a minimum of 10-15 years to extract the necessary follow-up data.

15.66 NHS England in its letter has committed to realising the ambitions of this study beyond the life of the Review. As a single integrated health service, which for the period in question had one provider of specialist gender care for children and young people, the NHS offers a world leading opportunity to look at outcomes for c.9000 patients and add to the evidence base.

15.67 NHS England will take over responsibility for this work and the NHS National Research Oversight Board for Children and Young People's Gender Services will support the task.

15.68 NHS England asked the Review for details on the circumstances that led the University of York to reach the conclusion that it was not yet possible to move ahead with the next stages of the data linkage study and specific recommendations for moving forward. The Review wrote to NHS England in March 2024 (Appendix 12).

Recommendation 5:

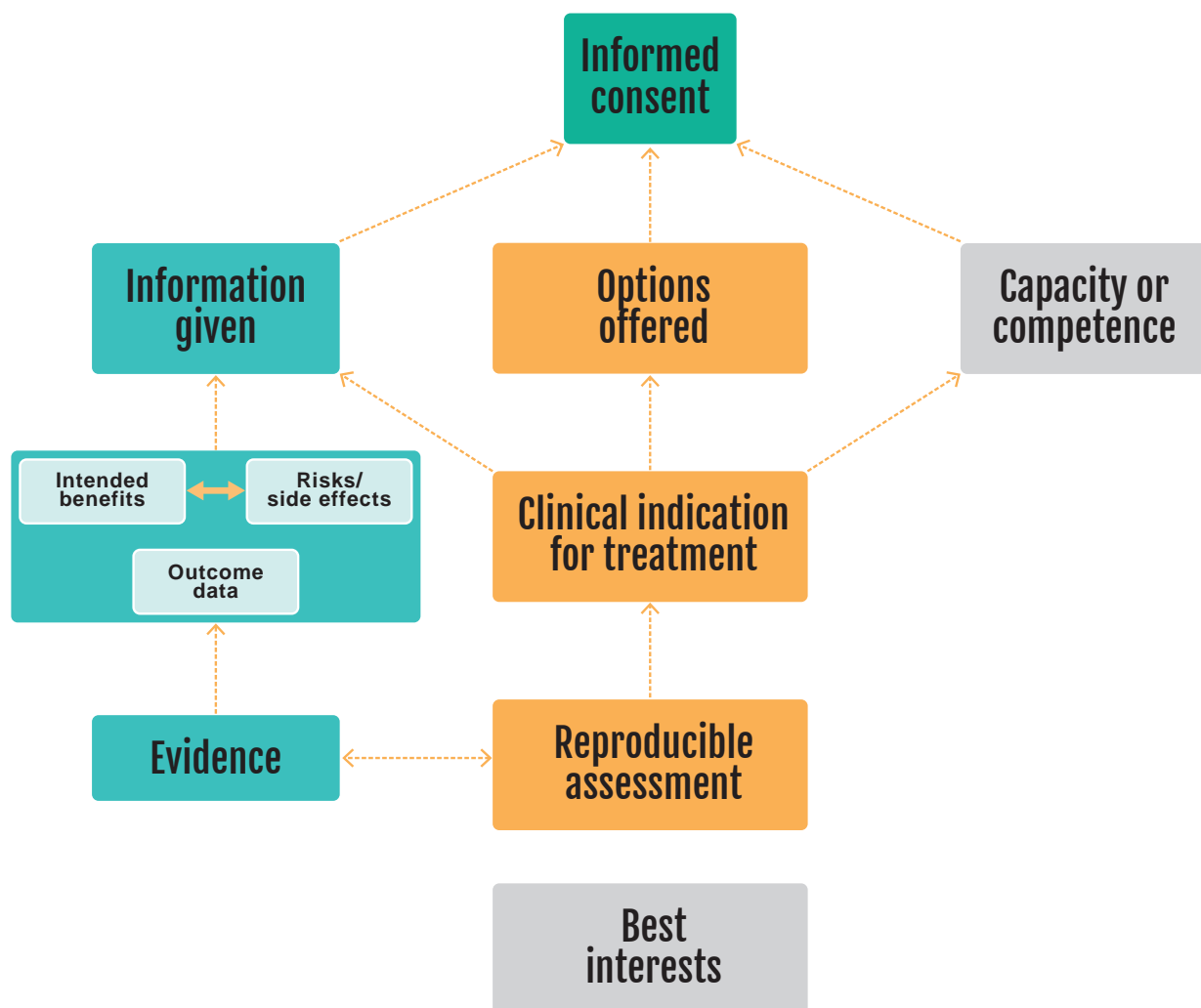
NHS England, working with DHSC should direct the gender clinics to participate in the data linkage study within the lifetime of the current statutory instrument. NHS England's Research Oversight Board should take responsibility for interpreting the findings of the research.

16. Challenges in clinical decision making

16.1 There was considerable public interest in the Bell v Tavistock case referenced in Chapter 2, which focused on competence/ capacity of the child or young person to consent to medical treatments. However, this is only part of the process of decision making about treatment options.

16.2 The clinician must first decide what treatments options are appropriate/clinically indicated, and then provide the information that the patient needs in order to make an informed decision about the options offered.

Figure 38: Informed consent



16.3 General Medical Council (GMC) guidance (GMC, 2020) states that in order to inform that joint decision-making process “the clinician must make an assessment of the patient’s health and be satisfied that any medicine or treatment they offer is clinically indicated (i.e. that in their reasonable professional judgement, a medical procedure or treatment is suitable and useful to reach a specific therapeutic goal with a certain probability)”.

16.4 In addition, the clinician is responsible for recommending and providing effective treatments based on the best available evidence. GMC guidance (GMC, 2021) makes it clear that doctors are responsible for any prescriptions they provide and accountable for their decisions and actions when supplying or administering medicines. ‘Prescribing’ is used to describe many related activities, not just prescription medicines. For example, it can also include activities such as exercise, and it may also be used to describe any written information or advice that is given to patients; thus, in the context of gender services, this could reasonably be deemed to apply to any advice ranging from social transition to hormone treatments.

16.5 There are multiple problems in making these judgements in this complex area of healthcare.

Assessing whether a treatment is clinically indicated

16.6 As discussed in Chapters 9 and 10, international guidelines on assessment of children and young people with gender incongruence or dysphoria lack clarity about purpose, content or duration. Formal assessment tools have not been adequately validated.

16.7 Although the most cited reasons for carrying out an assessment are to inform a care plan or assess eligibility for endocrine treatment, few guidelines provide detail about operational criteria for eligibility for puberty blockers or masculinising/feminising hormonal prescriptions. The Review was unable to obtain clear criteria from the GIDS team on their criteria for referral for endocrine intervention.

16.8 A formal diagnosis of gender dysphoria is frequently cited as a prerequisite for accessing hormone treatment. However, it is not reliably predictive of whether that young person will have longstanding gender incongruence in the future, or whether medical intervention will be the best option for them. Depending on what has caused their distress or dysphoria, it may be resolved by medical treatment, but it may also be resolved in other ways.

16.9 As discussed in Chapter 8, the nature and causes of gender dysphoria/incongruence are complex and poorly understood, and there is very limited understanding of the currently presenting population of predominantly birth-registered adolescent females. Each individual will have a different mix of biopsychosocial factors, but if potentially dynamic psychosocial or sociocultural factors predominate in a significant proportion of people, one of the most challenging ethical questions is whether and/or when medical intervention is the correct response.

16.10 As set out in the section on brain development, maturation continues into a person’s mid-20s, and through this period gender and sexual identity may continue to evolve, along with sexual experience. Priorities and experiences through this period are likely to change, and this was reflected in the differences in feedback from young adults compared to teenagers. Furthermore, the Review heard accounts from young adults and parents

about young people who felt certain about a binary gender identity in teenage years and then became more fluid in young adulthood or reverted to their birth-registered gender.

16.11 For these reasons, many clinicians who the Review has spoken to nationally and internationally have stated that they are unable to reliably predict which children/young people will transition successfully and which might regret or detransition at a later date.

16.12 Some commentators suggest that since there is no evidence that gender assessments can reliably predict or prevent detransition/regret better than self-reported gender identity and embodiment goals, services should adopt an ‘informed consent’ model of care. In this context, this means de-emphasising gender assessments in favour of offering gender-affirming interventions based primarily or solely on the person’s informed decision (Ashley et al., 2023). This would also be in line with the views of some service users who see the assessment process as intrusive and ‘gatekeeping’.

16.13 However, this is not an approach that would be compatible with GMC guidance with regard to the responsibilities of prescribers (GMC, 2021) or for the safeguarding of minors (GMC, 2018).

Best evidence and information

16.14 The University of York’s systematic reviews demonstrated poor study design, inadequate follow-up periods and a lack of objectivity in reporting of results. As a result, the evidence for the indicated uses of puberty blockers and masculinising/feminising hormones in adolescents are unproven and benefits/harms are unknown.

16.15 In addition to this making it difficult for clinicians to know whether these are appropriate treatments to offer, it is also challenging to provide children, young people and families with sufficient information on which to make an informed choice.

16.16 Montgomery makes it clear that clinicians must not merely disclose information but also take reasonable care to ensure that patients are aware of material risks ([2015] UKSC 11).. This is an active responsibility that involves assessing what the patient has understood.

16.17 This duty applies not just to the recommended treatments but also to any reasonable alternatives or treatments. This means that it would not be enough to discuss endocrine options, but also other non-endocrine options, as well as the pros and cons of delaying endocrine intervention.

16.18 The duty of information disclosure is complicated by many ‘unknown unknowns’ about the long-term impacts of puberty blockers and/or masculinising/feminising hormone during a dynamic developmental period when gender identity may not be settled.

16.19 For example, when young people commence on the hormones of their identified gender after a period of puberty suppression, they start to experience a sense of libido and a change in their physical appearance. Many report a period of ‘gender euphoria’. This makes it surprising that the observed improvements in psychological functioning in the first year of masculinising/feminising hormones are relatively modest. Their experience of puberty will then be based on their identified gender, which may have permanent neuropsychological effects.

16.20 For birth-registered females, the impact of testosterone will give a higher sex drive than they might have experienced during their biological puberty, and after one year will result in robust increases in muscle mass and strength (while birth-registered males will maintain their muscle strength) (Wiik et al., 2020). In the absence of any experience as an adult cis-woman, they may have no frame of reference to cause them to regret or detransition, but at the same time they may have had a different outcome without medical intervention and would not have needed to take life-long hormones.

16.21 There is no information on the natural history (that is, untreated trajectories) of the current cohort of predominantly birth-registered females presenting in early adolescence because endocrine interventions have been initiated.

16.22 Tragically deaths by suicide in trans people of all ages continue to be above the national average, but there is no evidence that gender-affirmative treatments reduce this. Such evidence as is available suggests that these deaths are related to a range of other complex psychosocial factors and to mental illness.

16.23 This raises the question of whether, for those who are in late adolescence and not on puberty blockers, managing any mental health problems, ensuring participation in education or work, supporting social transition and organising fertility preservation if required are more pressing issues than commencing masculinising/feminising hormones.

16.24 All of these difficult questions make provision of sound information and properly informed consent very challenging.

Competency and capacity to consent

16.25 Over the age of 16, the Mental Capacity Act 2005 presumes that a patient is able to make their own decision about their medical treatment - that is, choosing among the options made available to them - unless it is shown that they are unable to do so because they cannot understand or retain or use/weigh the information relevant to that decision because of an impairment or disturbance in the functioning of their mind or brain. The Family Law Reform Act 1969 s8 set out that the consent of a person aged 16 is as effective as the consent of a patient aged 18.

16.26 Under the age of 16, the ability to make the decision means having sufficient maturity and understanding to make the relevant decision ('Gillick competence').

16.27 Although, as described in Chapter 4, in the *Bell v Tavistock* judgment, the Court of Appeal rejected the High Court's guidance on whether particular age groups would be likely to be able to make such decisions, as these decisions would be uniquely difficult for children to be able to make for themselves, for all the reasons set out above.

16.28 The age for starting puberty blockers varies between clinics. Many guidelines have removed a lower age limit as puberty is now starting earlier than it was previously. This means that children as young as 9 can be started on treatment. However, such early treatment has not been the practice in the UK ([2021] EWCA Civ 1363).

16.29 Even at Tanner stages 2-3, young people have had minimal experience of their own biological puberty, and such experience as they have had may have been distressing for a wide range of reasons.

16.30 Once on puberty blockers, they will enter a period when peers are developing physically and sexually whilst they will not be, and they may be experiencing the side effects of the blocker. There are no good studies on the psychological, psychosexual and developmental impact of this period of divergence from peers.

16.31 However, if a young person is already on puberty blockers they will need to make the decision to consent to masculinising/feminising hormones at a point when their psychosexual development has been paused, and possibly with little experience of their biological puberty.

Best interests of the child/young person

16.32 For children and young people there may also need to be an assessment of best interests when it comes to making a choice among the treatment options which are made available, if they cannot make that decision for themselves. This must take account of the views, culture and beliefs of the child or young person, the parents and/or other close carers, as well as the views of other healthcare professionals involved in their care, or professionals involved in their welfare. Account should also be taken of “which choice, if there is more than one, will least restrict the child’s or young person’s future options” (GMC, 2018).

16.33 Best interests decisions are especially difficult where the proposed treatment is very significant, not readily reversible and the outcome of treatment is less predictable.

Conclusion

16.34 In considering endocrine interventions, the large number of unknowns regarding the risk/benefits in any one individual and the lack of robust information to help them make decisions present a major problem in obtaining informed consent.

16.35 The more fundamental issue though is determining the circumstances under which such treatments should be offered to children and young people in the first place.

16.36 A trusted source of information is needed on all aspects of medical care, but in particular it is important to defuse/manage expectations that have been built up by claims about the efficacy of puberty blockers.

16.37 Although younger people experience a sense of urgency to access medical treatments, some young adults have suggested that taking time to explore options is preferable.

16.38 The Review has already advised that because puberty blockers only have clearly defined benefits in quite narrow circumstances, and because of the potential risks to neurocognitive development, psychosexual development and longer-term bone health, they should only be offered under a research protocol. This has been taken forward by NHS England and the National Institute for Health and Care Research (NIHR).

16.39 The option to provide masculinising/feminising hormones from age 16 is available, but the Review would recommend an extremely cautious clinical approach. There should be a clear clinical rationale for providing hormones at this stage rather than waiting until an individual reaches 18. This would keep options open during this important developmental window, allowing time for management of any co-occurring conditions, building of resilience and fertility preservation, if required.

16.40 A more fundamental problem that has become more apparent as the Review has progressed is that research on psychosocial interventions and longer-term outcomes of those who do not access endocrine pathways is as weak as research on endocrine treatment. This leaves a major gap in our knowledge about how best to support and help this growing population of young people with gender-related distress in the context of complex presentations.

16.41 The overarching conclusion from the evidence presented in this Review is that the puberty blocker trial, which is already in development, needs to be one part of a much broader research programme that seeks to build the evidence on all potential interventions, and to determine the most effective way of supporting these children and young people.

Recommendation 6:

The evidence base underpinning medical and non-medical interventions in this clinical area must be improved. Following our earlier recommendation to establish a puberty blocker trial, which has been taken forward by NHS England, we further recommend a full programme of research be established. This should look at the characteristics, interventions and outcomes of every young person presenting to the NHS gender services.

- The puberty blocker trial should be part of a programme of research which also evaluates outcomes of psychosocial interventions and masculinising/feminising hormones.
- Consent should routinely be sought for all children and young people for enrolment in a research study with follow-up into adulthood.

Recommendation 7:

Long-standing gender incongruence should be an essential pre-requisite for medical treatment but is only one aspect of deciding whether a medical pathway is the right option for an individual.

Recommendation 8:

NHS England should review the policy on masculinising/feminising hormones. The option to provide masculinising/feminising hormones from age 16 is available, but the Review would recommend extreme caution. There should be a clear clinical rationale for providing hormones at this stage rather than waiting until an individual reaches 18.

Recommendation 9:

Every case considered for medical treatment should be discussed at a national Multi Disciplinary Team (MDT) hosted by the National Provider Collaborative replacing the Multi Professional Review Group (MPRG).

Recommendation 10:

All children should be offered fertility counselling and preservation prior to going onto a medical pathway.

Service model



This part looks at the service model for children and young people's gender services, clinical pathways, workforce and training, service improvement and research. It seeks to address the following aspects on which the Review has been asked to provide recommendations:

- pathways of care into local services, including clinical management approaches for individuals with less complex expressions of gender incongruence who do not need specialist gender identity services
- pathways of care into specialist gender identity services, including referral criteria into a specialist gender identity service and referral criteria into other appropriate specialist services
- current and future workforce requirements
- ongoing clinical audit, long-term follow-up, data reporting and future research priorities.

17. Existing service models

17.1 The interim report highlighted a number of issues in relation to the existing service model:

17.2 It is unusual for there to be direct referral into specialist services, as was the case for The Tavistock and Portman NHS Foundation Trust Gender Identity Development Service (GIDS). Early in the Review it became clear that referring a rapidly increasing number of children and young people into a single national service with insufficient links to local services was not working. The service did not have the ability to respond to the increasing demand and was not a safe or viable long-term option.

17.3 This has led to an increasingly long waiting list, which clinicians, young people and their parents/carers cite as the single biggest challenge in providing high quality care to gender dysphoric children and young people.

17.4 The long wait can further add to distress, result in deterioration of co-occurring mental health problems, and make it difficult for children and young people to explore the full range of options for addressing their gender-related distress.

17.5 Young people participating in the focus groups and the qualitative research study described how the lack of communication and support while waiting for specialist services meant they had to do their own research. They had often decided what they needed by the time they were seen by GIDS and had already taken steps to help manage how they felt, including social transition.

17.6 Parental and personal narratives described children and young people having more than one presenting issue, but services (for example, GIDS, CAMHS, general practice) dealing with

each issue in isolation, without considering the impact of different issues on each other. This may include the impact of neurodivergence or significant mental health issues, including past history of eating disorders, experiences of loss and/or trauma and bullying.

17.7 Parents described how an absence of support following referral left them worried and frustrated, not knowing where to get help. The University of York qualitative study (Appendix 3) found that: “Parents express continuing uncertainties and doubts about what was best for their child. They worry about getting it “wrong”. They also worry about the extent to which services can understand their child and respond appropriately”.

17.8 In addition, young people and their families have highlighted that referral into a service with a single focus on gender raises the issue of ‘diagnostic overshadowing’. They described children having more than one presenting issue, but different services (for example, GIDS, CAMHS, general practice), dealing with each issue in isolation, without considering how they might impact on each other.

17.9 Lack of clarity over clinical responsibility for a child/young person following referral, and the fact that there has often been little or no preliminary assessment of risk and safeguarding, is also a cause for concern.

17.10 Addressing these issues requires a system-wide response. The Review’s interim report concluded that a fundamentally different service model is required, and the Review subsequently undertook stakeholder testing of different service models that would:

- increase capacity both at tertiary and secondary care level
- allow initial assessment at an early point in the patient pathway
- approach clinical management through a broader paediatric and mental health lens
- have a multi-disciplinary workforce able to take a holistic view of children and young people
- skill-up a wider range of clinicians to work with gender-questioning children and young people, thus democratising knowledge and expanding capacity through the system.

17.11 The Review also considered the practicalities:

- care needs to be provided as close to home as possible
- roles need to be attractive for recruitment and tap into as broad a range of skills as possible
- recruitment to tertiary centres should not destabilise local services.

17.12 In July 2022, the Review wrote to NHS England expanding its advice in the interim report (Appendix 6). The letter set out the key components of a regional networked model of care to ensure this population of children and young people receive the holistic service described in Part 4 at appropriate levels within the NHS.

17.13 The aim of the proposed new regionalised NHS gender service for children and young people is to provide a comprehensive patient and family-centred service and package of care, supporting children and young people who are questioning their gender identity or experiencing gender dysphoria to get on the right pathway for them as an individual.

NHS England's interim service – establishing Phase 1 providers

17.14 Since receiving the Review's interim report, NHS England has taken steps to increase capacity and manage the closure of GIDS, establishing two new nationally networked services to be led by specialist children's hospitals. This is the first step in commissioning a network of regional services across the country over the coming years.

17.15 These Phase 1 service providers will take over clinical responsibility for seeing children and young people on the national waiting list, as well as providing continuity of care for the GIDS open caseload at the point of transfer as part of a managed transition of the service.

17.16 There have been delays due to the complexity of the programme and the phenomenal challenge of building the new service. This has meant designing and commissioning a new clinical and service model rather than simply transferring the existing model across to the Phase 1 providers. There has also been the need to recruit and train a clinical workforce to meet the requirements of the new service.

17.17 The Review had hoped to take learning from the clinicians seeing the patients in the interim services, about the characteristics of the patient cohort and optimum pathways of care. Instead, it has gained insight and learning from the considerable challenges faced in establishing the interim service. These have included: how best to manage the existing caseload and the recruitment to and training of staff for the new services.

Existing caseload

17.18 One of the key challenges in establishing the interim service has been the transfer of the open caseload. This has proven difficult in light of a lack of information on the patient cohort and the expectations of young people and their families/carers who have started care under a different clinical model.

17.19 Although representatives of GIDS have been involved in these discussions, the transfer of information to the new providers about the open caseload has proven challenging as the characteristics of the population have been difficult to ascertain. The situation is similar for those on the waiting list.

Recruitment and training

17.20 The reluctance of clinicians to engage in the clinical care of gender-questioning children and young people was recognised earlier in this report. Clinicians cite this stems from the weak evidence base, lack of consistent professional guidance and support, and the long-term implications of making the wrong judgement about treatment options. In addition, concerns were expressed about potential accusations of conversion practice when following an approach that would be considered normal clinical practice when working with other groups of children and young people.

17.21 Throughout the Review, clinicians working with this population have expressed concerns about the interpretation of potential legislation on conversion practices and its impact on the practical challenges in providing professional support to gender-questioning young people. This has left some clinical staff fearful of accepting referrals of these children and young people.

17.22 Clinical staff must not feel that discharging their clinical and professional responsibility may expose them to the risk of legal challenge, and strong safeguards must be

built into any potential legislation on conversion practices to guard against this eventuality. This will be of paramount importance in building (as opposed to diminishing) the confidence of clinicians working in this area. Any ambiguity could serve to further disadvantage these children and young people rather than support them.

17.23 Clinicians are being asked to work within a highly emotive and politicised arena. This, coupled with concerns about the weakness of the evidence base and a lack of professional guidance, has impacted on the ability of the new services to recruit the appropriate multi-disciplinary workforce.

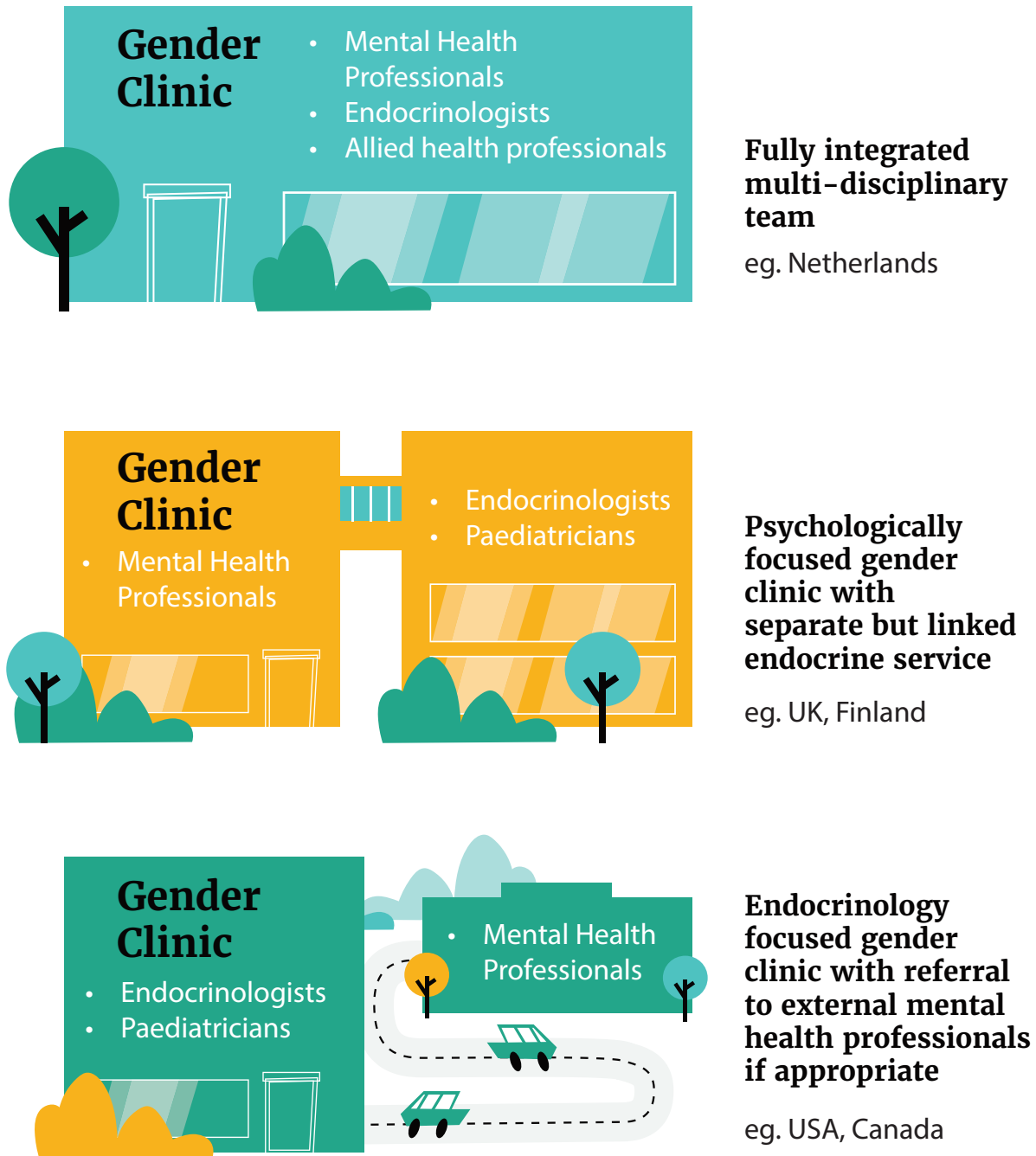
17.24 For these reasons, whilst the Review welcomes the first step NHS England has taken to begin to establish a regional model of care, it maintains that a much more distributed model of care is needed to meet current demand and provide a more appropriate holistic, localised and timely approach to care for children and young people needing support around their gender identity.

17.25 This means services should not be located solely in tertiary centres. A much broader based service model is needed with a flexible workforce working across a regional footprint in partnership with designated local specialist services.

International practice

17.26 The University of York looked at how services are organised in other health systems.

17.27 Each of these models considers the gender service in isolation. However, models of care that deliver a clinical service over multiple sites have the potential to maintain geographical access to services whilst improving quality of care and optimising the use of the workforce.

Figure 39: Variations in service models for specialist gender care

NB: These are just exemplars of models that have been described within different countries, but there is also considerable within-country variation.

Different service models in the NHS

17.28 A systematic review of ‘multiple site single service’ models of care was published by Public Health England (2019) and described a number of such models.

17.29 The interim service, with two initial hubs, is a ‘specialist centre’ model of care that involves a specialist (‘tertiary’) centre accepting referrals from feeder hospitals in a defined geographical area. This is intended as a step towards a clinical network approach.

17.30 ‘Specialist outreach’ involves clinicians from a specialist centre travelling out from the

centre to smaller sites to offer some elements of peer support, clinical advice and/or patient care. Many specialties in both paediatric and adult care deliver outreach clinics. GIDS operated this model, running outreach clinics in various locations around the UK.

17.31 ‘Clinical network’ describes a network in which a specialist centre provides specialist treatment to patients who reside in a defined area, but whose feeder hospitals complete some form of initial assessment, diagnostics and medical management before transferring the patient. This is the model NHS England consulted on for its interim services: secondary care provides initial assessment before referring a patient to the specialist centres.

Figure 40: Descriptive framework describing different types of Multiple-Site, Single Service models of care

Multi-site System	<ul style="list-style-type: none"> • Strong central coordination • Shared Governance structures
Clinical Network +	<ul style="list-style-type: none"> • All clinical sites maintain services • Some aspects of care provided by network
Clinical Network	<ul style="list-style-type: none"> • Feeder hospitals offer diagnostics, some treatment • Smaller no. of centres offer advanced treatment
Specialist outreach	<ul style="list-style-type: none"> • Clinicians visit satellite units from specialist centre
Specialist Centre	<ul style="list-style-type: none"> • Feeder sites assess and refer only • Common referral pathway

Source: Public Health England (October 2019)

17.32 'Clinical network plus' describes a network in which all sites provide the same treatment to patients, but some aspects of care are restricted to a smaller number of sites at certain times. Within these models, some secondary-level services take an intermediate role between secondary and tertiary care and with additional staffing and training provide an additional level of care that is not routine in all secondary-level services (for example, different levels of neonatal care).

17.33 'Multi-site system' describes a model of care in which all clinical sites provide the same level of care to patients, based on shared treatment pathways and clinical policies and with shared governance across the system.

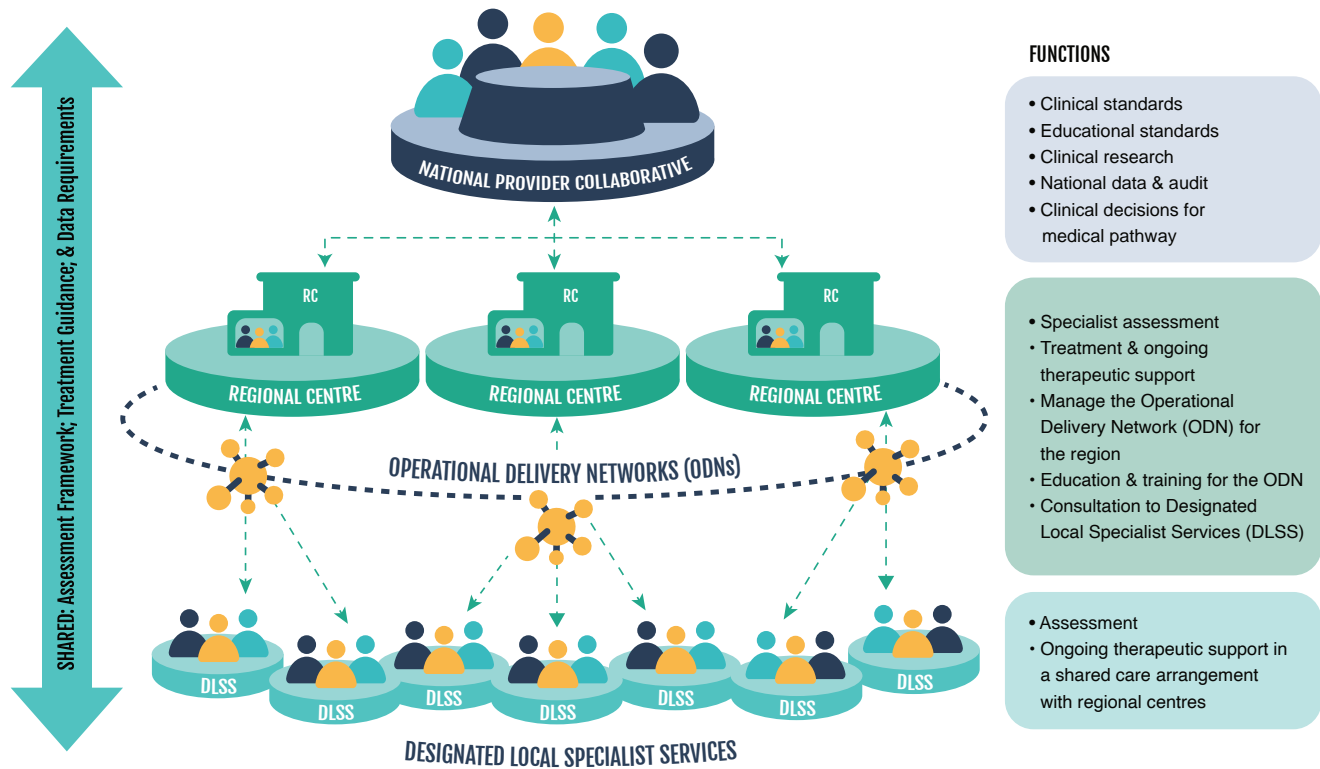
17.34 The clinical network plus and the multi-site system models are most closely aligned with the Review's proposed model because:

- they provide better continuity of care, closer to home, and the ability for children and young people to move between components of the service at their own pace
- there is a finite workforce available to serve the needs of this population and the wider population of young people with complex needs. Therefore, partnerships with local services must be developed so that workforce can be shared across the network without destabilising local services.

17.35 Without this approach the challenges in recruitment experienced by both GIDS and the Phase 1 providers will continue.

18. A new model for gender services for children and young people

Figure 41: Proposed service model



Regional Centres

18.1 Despite the growth in the numbers of children and young people requiring support from the NHS for gender-related issues, the number remains relatively small and there will still be a need for specialist tertiary care for some of the cohort.

18.2 The regional centres will play a pivotal role in delivering the new services. They will be responsible for managing the caseload of individuals requiring support around their gender identity and hold responsibility for the assessment and treatment of those with more complex presentations and requiring more specialist care. They will oversee and work through an operational delivery network (ODN) within their region and will also provide consultation support and training to local providers.

18.3 The Review has advised that these centres be situated within experienced providers of paediatric tertiary care that have the ability to provide essential related services to support the broad range of presentations this group of children and young people may have (or be able to access such services through provider collaborations). These essential services should include, but not be limited to: mental health services, services for children and young people with autism and other neurodiverse presentations, and access to endocrinology services and fertility services, where appropriate for those seeking medical intervention.

18.4 It will also be essential that the regional centres have established academic and education functions to ensure that ongoing research and training is embedded within the service delivery model.

Designated Local Specialist Services

18.5 Although the Review recognises that much of the assessment described in Part 4 could be undertaken more locally by secondary care services, it recognised that not all local services will have the capacity, capability and/or aspiration to support this cohort, particularly given that Child and Adolescent Mental Health Services (CAMHS) services are already stretched, with a high threshold for referrals.

18.6 It is recommended that a smaller number of secondary services within CAMHS and paediatrics should be identified initially to act as Designated Local Specialist Services (DLSS) within each area. This would increase the available workforce through a flexible, multi-site staff group working between the DLSS and the regional centre, with the opportunity to provide targeted training and upskilling.

18.7 This mix of paediatric and mental health services is a fundamental change to the existing service model. In order to meet the wider needs of this population these services will need to demonstrate experience in working in child and adolescent health and with young people with complex needs, in addition to having access to mental health support. Among the workforce GPs with a special interest in adolescent health could be included.

18.8 Initially the Review advises the Regional Centres work within existing relationships to allow this provision to be established as quickly as possible with appropriate funding. Joint contracts between the Regional Centres and the DLSS should be used to support flexibility of the workforce.

18.9 Several children's hospitals operate community paediatric and/or mental health services. For example, Alder Hey Children's NHS Foundation Trust provides both acute, community and mental health paediatric services for its local population of children and young people. The range of mental health services includes Child and Adolescent Community Mental Health Services, Community Eating Disorder Service, 24/7 Crisis Care Service including Home Based Treatment Service, Mental Health in Schools Service, Enhanced Support Team and Tier 4 Children's Inpatient Regional Unit (Sunflower House). The services are located with Community and Neurodevelopmental Paediatric Services including autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD) assessment and diagnostic services, which ensures an integrated, holistic and supportive approach to the physical and emotional health needs of children and young people.

18.10 The Review has met with clinicians working in services established to support a wide range of adolescent health and wellbeing needs; for example, the Well Centre, a GP-led service in Lambeth, London, and the Onward Clinic in the Brandon Centre, a community-based service with secondary care staffing based in Kentish Town, London.

18.11 These centres provide a wide range of services, helping young people to overcome the psychological and social needs and challenges they might face, and providing support with mental health and physical and emotional wellbeing through GPs, mental health and wellbeing practitioners. There are also youth workers to support young people along their care pathway.

18.12 There is an opportunity for Regional Centres to partner with these types of services to provide the holistic needs assessment and some of the treatment pathways that might be identified through formulation and the individualised care plan. Such services may also provide parenting and broader family support.

18.13 The expansion of such models could support not only this population of young people, but also the wider population of children and young people presenting to the NHS, with gender being one component of the needs addressed. In the future, consideration could also be given to the inclusion of long-term physical care; for example, screening and supporting the public health needs of this population within a community setting.

18.14 There is considerable scope for local innovation and voluntary sector partnerships in developing these services in a range of settings. Yellow Door - Gender Identity Therapy Service, for example, is a voluntary sector Southampton-based service commissioned by the NHS that aims to provide a safe and supported thinking space for children and young people who are negatively affected by confusion, distress or interpersonal difficulties related to gender.

18.15 NHS provision for young people across the board requires service and workforce development and additional sustained investment. There is an opportunity to integrate investment and development of gender services with the ambitions set out in the NHS Long Term Plan (2019) for broader adolescent provision. In doing so, consideration should be given to integration across health, social care and other sectors, especially for young people with complex and/or multiple needs.

Operational Delivery Networks

18.16 Each Regional Centre should have an ODN. ODNs are network groups comprising representatives from the regional centre, DLSS and relevant agencies; for example, social care and education. The ODN should hold shared care agreements with DLSS to ensure this population has access to supportive care and appropriate treatment as close to home as possible.

18.17 An ODN board should be established with formal governance responsibility for children and young people in the region. An ODN is an established NHS England structure (NHS Commissioning Board, 2012). Its purpose is to:

- ensure effective clinical flows through the provider system with clinical collaboration for networked provision of services
- take a whole-system, collaborative provision approach, ensuring the delivery of safe and effective services across the patient pathway
- improve cross-organisational, multi-professional clinical engagement to improve pathways of care
- enable the development of consistent provider guidance and improved service standards, ensuring a consistent patient and family experience
- focus on quality and effectiveness through the facilitation of comparative benchmarking and auditing of services, with implementation of required improvements
- fulfil a key role in assuring providers and commissioners of all aspects of quality as well as co-ordinating provider resources to secure the best outcomes for patients across wide geographical areas.

18.18 In relation to this specific population the ODN Board will:

- support capacity planning and activity monitoring with collaborative forecasting of demand and matching of demand and supply
- ensure the DLSS meet data collection requirements and standards as established by the National Provider Collaborative
- establish sub-groups to manage the administrative functions around data, referrals and oversight of ongoing local training and CPD.

18.19 This approach should ensure clinical risk is held at the local level and help to facilitate access to and integration of local support services. The shared care arrangements will require organisations to use the same record system to allow joined-up working.

National Provider Collaborative

18.20 The Regional Centres will need to come together to form a National Provider Collaborative to ensure standards of care and equitable access is maintained. This governance role will be key to the success of the model and should include the following functions:

- the development of shared standards, operating procedures and clinical protocols, for example, for assessment and treatment
- updating the assessment framework in line with emerging evidence, audit and quality improvement
- the development of clear referral criteria and intake procedures to ensure equitable access to services

- a forum for discussion of complex cases and all decisions about medical care (a national multi-disciplinary team), ultimately subsuming the role of the Multi-Professional Review Group (MPRG)
- an ethics forum for cases where there is uncertainty or disagreement about best interests or appropriate care
- a process of peer review between Regional Centres
- development of a programme of ongoing continuing professional development (CPD) for staff at all levels, as well as educational standards for practitioners within the various tiers of service provision
- collation of the national dataset and conduct of national audit
- development of a quality improvement programme to ensure evolving best practice
- consideration of research requirements
- ongoing research in areas of weak evidence.

18.21 The National Provider Collaborative should consist of clinical and academic representatives from across the Regional Centres, as well as any external experts considered to be necessary for its work. This will require resourcing for a secretariat and time allocated in job roles to deliver the responsibilities.

Summary – service model

18.22 The aim is that no matter where in the country the child/young person is seen, they will receive the same high standards of evidence-based care and better information upon which to base their decisions, avoiding a so-called ‘postcode lottery’.

18.23 The proposed new service model with its formalised network structures at national and regional levels, and increased number of providers, should allow care and risk to be actively managed at different levels according to need, reducing waiting times for specialist care.

18.24 It is envisaged that this model will also support integration between different children’s services and facilitate early access to local services along flexible pathways that better respond to children and young people’s individual needs. Overall, this model should improve the experience of care for children and young people questioning their gender identity.

18.25 The new providers of these services should quickly develop their ODN and DLSS networks, utilising existing relationships in the first instance with those services that have the capacity, capability and interest in supporting this cohort to establish this vital level of service provision more quickly.

18.26 This approach would act as a stepping stone to ultimately skilling up all secondary-level services to provide assessment and psychological support for these children and young people, with medical intervention remaining at tertiary level.

Recommendation 11:

NHS England and service providers should work to develop the regional multisite service networks as soon as possible. This could be based on a lead provider model, where NHS England delegates commissioning responsibility to the regional services to subcontract locally to providers in their region.

Recommendation 12:

The National Provider Collaborative should be established without delay.

Workforce

18.27 The Review recognises that workforce shortfalls are one of the most challenging aspects of delivering this service.

18.28 Within the existing model of care, the vast majority of gender-questioning children and young people who seek help from the NHS have been referred to a highly specialised workforce working solely in gender care. A smaller number are successfully supported in local CAMHS or paediatric services. This approach has had the unintended consequence of de-skilling the rest of the workforce and generating unmanageably long waiting lists.

18.29 Given the increasing numbers of gender diverse and gender-questioning young people, it is important that all clinical staff are able to support them in a range of settings across the NHS. It is equally important that professionals who are involved in their ongoing care have broad-based skills in adolescent physical and mental health so that young people are treated holistically and not solely on the basis of their gender presentation

18.30 Most international guidelines recommend that there should be a multi-professional team involved in assessment and care. The exact composition of the recommended team varies, but access to mental health professionals within the specialist team and/or within local teams is a common theme.

18.31 In line with international practice, the Regional Centres will need to have a broad multi-professional workforce. The skills of those working within the service need to reflect the needs of this heterogeneous group and the service needs to include the appropriate skill mix to support both individuals who require medical intervention and those who do not.

18.32 This workforce should include paediatricians, psychiatrists, psychologists, psychotherapists, clinical nurse specialists, social workers, family therapists, specialists in autism and other neurodiverse presentations, speech and language therapists, occupational health specialists and, for the subgroup for whom medical treatment may be considered appropriate, endocrinologists and fertility specialists. Social care should also be embedded and there should be expertise in safeguarding and support for looked-after children and children who have experienced trauma.

18.33 The role of paediatric and mental health professionals in this area is well recognised, but the role of allied health professionals has been under recognised. Speech and language therapists are particularly important given that a large subset of this population are neurodiverse or have other communication needs. Screening for these issues and/or advising on accessibility of written and verbal information for consent is essential. Some young people may need specialist voice intervention.

18.34 This group of young people may equally need access to occupational therapy support, again because of issues of neurodiversity and sensory distress, but also because they may experience a wide range of barriers to participation in school or other peer settings that may require assessment and advice.

18.35 Staff should maintain a broad clinical perspective by working across related non-gender services within the tertiary centre and as a multi-site staff group between tertiary and secondary centres in order to embed the care of children and young people with gender-related distress within a broader child and adolescent health context. This has the additional benefits of not destabilising existing services, supporting continuity and connection and sharing expertise and knowledge.

18.36 This is a highly challenging, complex and emotive area in which to work. Those working with this group have given professional supervision and support to provide a place for exploration of their own approach and the range of emotions they may feel. There should be formal processes for raising concerns that sit outside immediate supervision. This should support consistency in approach and improve retention of the workforce.

18.37 The National Provider Collaborative should also explore running structured forums where all staff, clinical and non-clinical, come together regularly to discuss the emotional and social aspects of working within the service - supporting staff by giving them a safe place to raise issues and ask questions.

Recommendation 13:

To increase the available workforce and maintain a broader clinical lens, joint contracts should be utilised to support staff to work across the network and across different services.

Recommendation 14:

NHS England, through its Workforce Training and Education function, must ensure requirements for this service area are built into overall workforce planning for adolescent services.

Training and education

18.38 During the course of the Review, it has become clear that there is a general lack of confidence among the wider workforce to engage with gender-questioning children and adolescents. Many clinicians working with children and young people more generally have transferable skills and expertise, but there is a need for all clinicians across the NHS to receive better training about how to work sensitively and effectively with trans, non-binary and gender-questioning young people.

18.39 Clinicians working with children and young people and families/carers will need to have the skills to competently engage families/carers from a broad range of backgrounds, and be aware and informed of the range of priorities that young people and their parents/carers can present to services.

18.40 Young people have told the Review that they want clinicians to listen to them, respect how they feel and support them to work through their feelings and options. They expect clinicians to display compassion, understanding, and to treat them as an individual.

18.41 Training programmes should follow practice in other service areas (for example, safeguarding), where levels of competency and training needs depend on the staff group and clinical area.

18.42 In addition, providers should work with commissioners to realise the NHS Long Term Workforce Plan commitment that: “Additional specialist training in gender dysphoria will be provided to meet the workforce shortage in this specialist service; we will raise awareness of this patient group across the workforce and support healthcare professionals to signpost and support patients” (NHS England, 2023).

18.43 An effective approach would be to establish a consortium to include relevant Medical Royal Colleges, special interest groups and other professional bodies, including but not limited to:

- Association of Clinical Psychologists
- Association of Psychotherapists
- Royal College of Speech and Language Therapists
- Royal College of Occupational Therapists
- British Association of Social Workers.

18.44 The consortium should develop a shared skills and competency framework relevant to all clinical and social care staff working in this area at different levels within the system. This should include broader skills in adolescent care, as well as the more specific aspects relevant to gender care.

18.45 Individual professional organisations should determine which of the transferable skills and competencies are already embedded in the training curricula of their specific staff groups and where the gaps are.

18.46 The consortium should then develop a curriculum to cover topics that are deemed to be missing from existing training programmes and curricula, and necessary for top-up training/CPD/credentialing for individuals working within this area.

18.47 Training materials developed by MindEd and the induction materials developed for the Phase 1 providers will be helpful starting points for this work (MindEd, 2023).

18.48 The National Provider Collaborative will have responsibility to engage with the education consortium and ensure that new evidence and practice is integrated into teaching materials.

18.49 In addition to the development of national training resources, the National Provider Collaborative and individual Regional Centres/ODNs will have responsibility for ensuring a CPD programme comprising case presentations, research updates and other methods of shared learning as in all other specialty areas.

18.50 Service users and families have told the Review that there is not a single trusted source of information available from the NHS. The Provider Collaborative should work to develop regularly updated information for service users, families and other agencies such as schools and social care services.

Recommendation 15:

NHS England should commission a lead organisation to establish a consortium of relevant professional bodies to:

- develop a competency framework
- identify gaps in professional training programmes
- develop a suite of training materials to supplement professional competencies, appropriate to their clinical field and level. This should include a module on the holistic assessment framework and approach to formulation and care planning.

Recommendation 16:

The National Provider Collaborative should coordinate development of evidence-based information and resources for young people, parents and carers. Consideration should be given as to whether this should be a centrally hosted NHS online resource.

Service improvement

18.51 As set out in the interim report, central to any service improvement is the systematic and consistent collection of data on the outcomes of treatment.

18.52 Throughout the course of the Review, it has been evident that there has been a failure to reliably collect even the most basic data and information in a consistent and comprehensive manner; data have often not been shared, or have been unavailable. This has led to challenges in understanding the patient cohort, referral data and outcomes, all of which have hindered the work of the Review. More importantly, this has been to the detriment of young people and their families being able to make informed decisions.

18.53 There needs to be a cultural shift, with active leadership supporting all providers to adopt a proactive learning culture across the new services.

18.54 There should be a process of continuous service improvement and clinical reflection, with consideration to how services should evolve as the evidence base grows and care pathways are evaluated.

18.55 The Review has previously advised that the National Provider Collaborative should oversee this process, ensuring national treatment protocols and guidelines are in place to enable standardisation and consistency in practice, including for case management, assessment, consent and safeguarding.

18.56 Regional Centres should ensure these standards are disseminated and implemented through their networks and that the relevant workforce is recruited and trained, contingent on the type of support, therapy or treatment this population needs.

18.57 The National Provider Collaborative should have independent oversight of quality improvement (for example, through a Healthcare Quality Improvement Partnership commissioned approach) to ensure the highest possible standards of data management and utilisation. Regional Centres should also have oversight and reporting structures to monitor quality and improvement across their networks.

18.58 There remains the need for the collection of an agreed core dataset to inform service improvement and research, based on similar approaches already established in other specialties; for example, PICANet - Paediatric Intensive Care Audit Network for the UK and Ireland in paediatric critical care. This will be critical to informing current and future clinical practice and care for this population.

Recommendation 17:

A core national dataset should be defined for both specialist and designated local specialist services.

Recommendation 18:

The national infrastructure should be put in place to manage data collection and audit and this should be used to drive continuous quality improvement and research in an active learning environment.

Research capacity

18.59 The gaps in the evidence base regarding all aspects of gender care for children and young people have been highlighted, from epidemiology through to assessment, diagnosis, therapeutic support and treatment.

18.60 It is troubling that so little is known about this cohort and their outcomes. An ongoing programme of work is required if the new case-mix of children and young people and their needs are to be fully understood, as well as the short-, medium- and longer-term impacts of all clinical interventions.

18.61 Given the particular uncertainties regarding the long-term outcomes of medical and non-medical interventions, and the broader knowledge gaps in this area, the Review has previously advised on the need to build research capacity into the national network.

18.62 This research capacity is needed to:

- provide ongoing appraisal of new literature and rapid translation into clinical practice
- continue to identify areas of practice where further research is needed
- develop a research portfolio that will inform policy on assessment, support and clinical care of children with gender dysphoria, from presentation through to appropriate social, psychological and medical management.

18.63 The appropriate research questions and protocols will need to be developed with input from a panel of academics, clinicians, service users and ethicists.

18.64 In order to build on the work undertaken by the University of York and maintain an up-to-date understanding of this complex and fast-moving research area, a living systematic review approach should be considered. Through this approach the systematic reviews could be continually updated, incorporating relevant new evidence as it becomes available to inform the clinical approach of the new services, ensuring it remains up-to-date and dynamic.

18.65 As detailed in this report, priorities for research should include analysis of the characteristics of the population and formal research protocols underpinning both medical and non-medical interventions with follow-up into adulthood.

18.66 Without an established research strategy and infrastructure, the outstanding questions will remain unanswered, and the evidence gaps will continue to be filled with opinion and conjecture.

18.67 This is critical if the NHS is to provide reliable, transparent information and advice to support children, young people, their parents and carers in making potentially life-changing decisions.

Recommendation 19:

NHS England and the National Institute for Health and Care Research should ensure that the academic and administrative infrastructure to support a programme of clinically-based research is embedded into the regional centres.

Recommendation 20:

A unified research strategy should be established across the Regional Centres, co-ordinated through the National Provider Collaborative and the Research Oversight Group, so that all data collected are utilised to best effect and for sufficient numbers of individuals to be meaningful.

Recommendation 21:

To ensure that services are operating to the highest standards of evidence the National Institute for Health and Care Research should commission a living systematic review to inform the evolving clinical approach.

19. Pathways

19.1 The interim report set out that: “Clear criteria will be needed for referral to services along the pathway from primary to tertiary care so that gender-questioning children and young people who seek help from the NHS have equitable access to services”.

International practice

19.2 University of York’s review of international guidelines (Hewitt et al.: Guidelines 2: Synthesis) and international survey (Fraser et al.: Clinic survey) found that:

- There is variability in whether services required that referrals come from child and adolescent mental health services or not. Several clinics specify that a referral must come from a clinician. Finland is unique in also having referral criteria related to co-occurring conditions, which need to be addressed prior to a referral being accepted.
- The care pathway for most guidelines is similar, starting with psychosocial care for pre-pubertal children, followed by puberty blockers then hormones for eligible adolescents.
- There is usually a separate pathway for pre-pubertal children, involving a one-off assessment followed by local management until eligible for puberty blockers.
- Denmark and Finland reported a different pathway for young people with psychosocial concerns or a short history of distress.

- Co-occurring mental health conditions or neurodiversity are usually managed by other providers, and sometimes have a longer assessment process.
- The approach among those countries that reported on their approach to non-binary individuals is generally cautious, usually delaying treatment until adulthood.
- Only one guideline mentioned transition to adult services.

Current referral pathway

19.3 Usual practice in the NHS is that for patients to access tertiary (specialist) care, they need to be seen by a secondary care practitioner (for example, CAMHS, paediatrics) in the first instance. If, following an initial assessment, that practitioner felt that their case was sufficiently complex or the individual met the criteria for tertiary (specialist) care, they would make a referral.

19.4 When the Review commenced, access to the specialist GIDS service was unusual in that the service accepted referrals directly from primary care (a GP) and from non-healthcare professionals including teachers and youth workers.

19.5 The audit of GIDS discharge notes, undertaken by Arden & Gem CSU in spring 2023 (Appendix 6), found that 48.6% of patients referred to GIDS were referred by CAMHS/ child and young people mental health services and 40.68% were referred by their GP. Of the remaining, referrals were made by other healthcare providers (2.6%), local authorities (3.3%), the voluntary sector (3.1%) and schools (1.8%).

19.6 This created a number of problems:

- The information recorded on the referral was highly variable and often lacked even the basic information that the specialist team would need to screen and triage the patient.
- Patients who would not usually meet the threshold for a specialist service were being referred, meaning waiting times increased for everyone without a way to discern those who genuinely required specialist input from those who could be managed in secondary care or even primary or community care.
- Once referred, it was unclear who held clinical responsibility for the care of the young person.
- Usual assessments that would be undertaken by a secondary care practitioner (for example, safeguarding assessment, mental health assessment) were not being completed for these young people, particularly those referred through a non-healthcare route. This means that there is an unknown level of risk inherent in the legacy waiting list, that is, it is not known which young people may be at risk of self-harm or suicide, and which may be at risk due to family breakdown or other safeguarding issues.

19.7 Following the Review's interim report, NHS England consulted on a proposal for all referrals to the Regional Centres to come via secondary care. We support this approach for the following reasons:

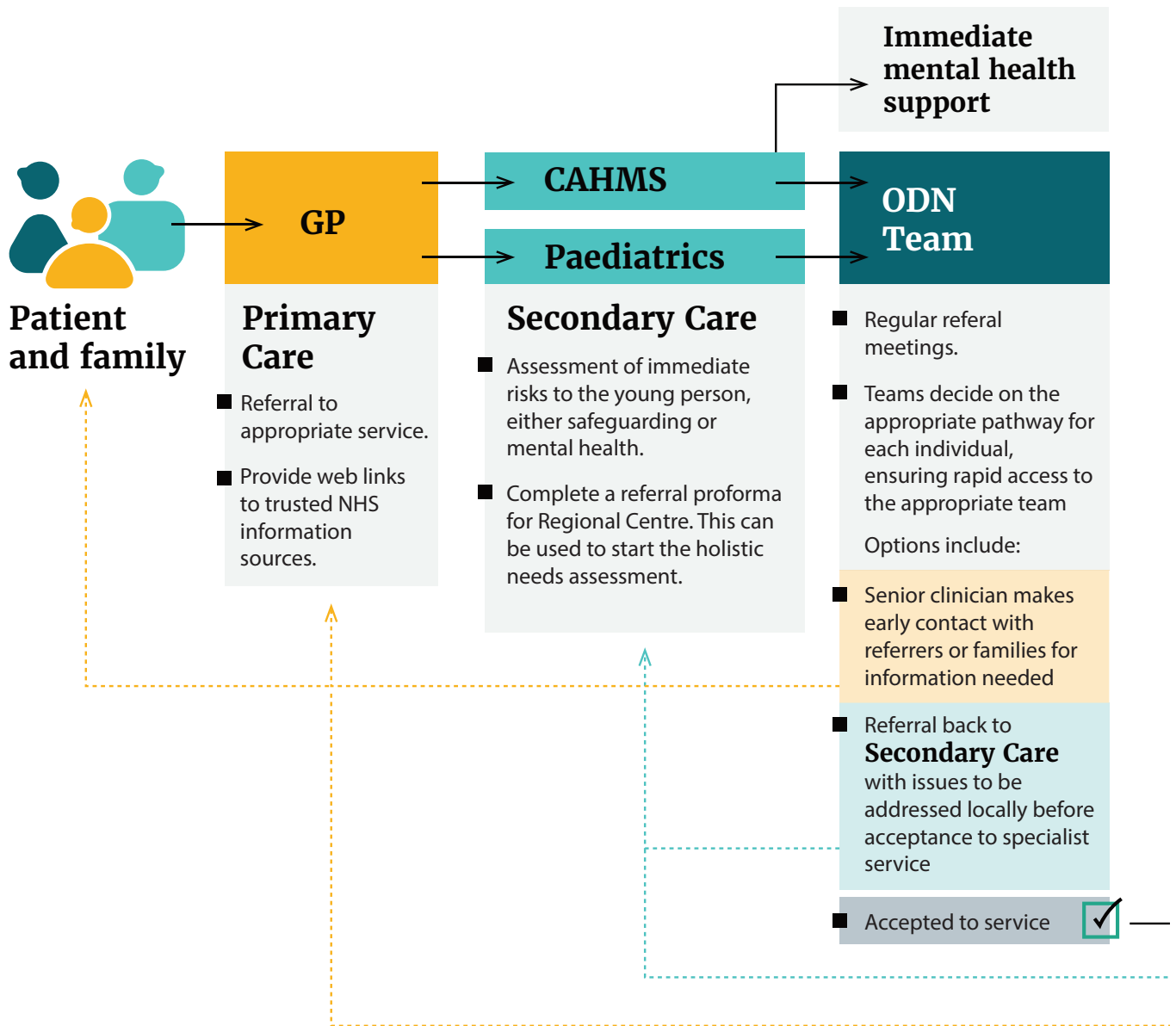
- The Regional Centres need to remain focused on the young people they can best support, and in common with other tertiary services, an initial local assessment ensures that referrals that reach the tertiary centre are appropriate, and are those whose needs cannot be met locally.
- Any immediate safeguarding or mental health risk issues can be identified and addressed, with ongoing local responsibility for this aspect of care.

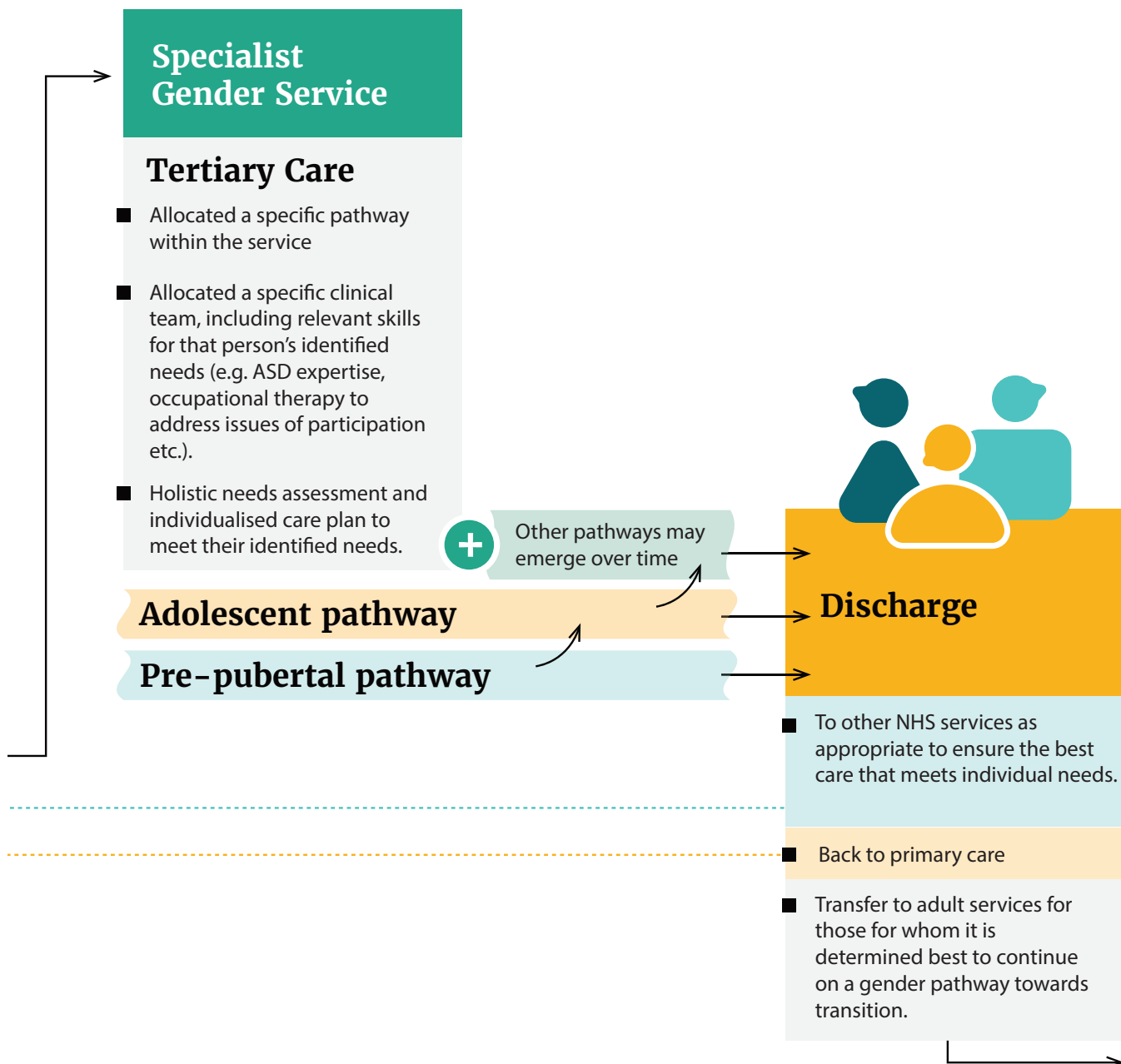


Recommended referral pathway

19.8 Taking the new service model, described previously, the process for referral would be as follows:

Figure 42: Referral pathway





Role of Primary Care

19.9 Initial consultation should be with the GP, who should make an initial assessment as they would with any other adolescent. They will have a record of any relevant past medical history and of family context.

19.10 If they consider that the young person may need to be referred to a Regional hub, they should make a referral in the first instance to a secondary Centre service. If the young person reaches the referral threshold for CAMHS, they should be referred to that service, or otherwise they should be referred to paediatrics. This should have an immediate effect on reducing the length of time children and young people are waiting to be seen by NHS services.

19.11 The GP should also share weblinks to trusted NHS information sources with the child or young person. In the longer term these sources should be overseen by the National Provider Collaborative. In the interim, MindEd (2023) provides initial information for frontline staff, parents and teachers.

Role of Secondary Care

19.12 The responsibility of secondary care services is to make an assessment of immediate risks to the young person - either safeguarding or mental health. If there are significant concerns, these will need a local management plan.

19.13 The secondary care service will also need to complete a referral pro forma for the Regional Centre. This will document basic information including a brief history of the young person's gender presentation, family history, any co-existing conditions, and a list of any other services or agencies involved in the young person's care.

19.14 This information should be used to inform/start to complete the information for the

assessment framework described in Part 4, so that individuals are not repeating information unless necessary.

Role of the Operational Delivery Networks

19.15 The ODN should hold a regular referral management meeting. Members should include clinical staff from the tertiary service, as well as the DLSS. The team should also include a referral data manager, and may include representatives from social care, education and any other relevant team members at the discretion of the ODN.

19.16 It is essential that information about referrals be collected on a core database in order to improve understanding about the characteristics of the referred population, which is currently weak both nationally and internationally.

19.17 The referral management group will make a decision about the appropriate pathway of care for that young person, ensuring the fastest access to the appropriate team. This decision should be communicated to the young person/child's parents. The ODN should operate a 'transparent walls' approach between the tertiary centre and DLSS, so that initial assessment takes place with the most appropriate team. This will allow flexibility of capacity and skill mix between the DLSS and the tertiary team.

19.18 Options may be as follows:

- a senior clinician may make early contact with referrers or families to gain any further information needed to make decisions about the appropriate referral pathway
- referral to secondary care with advice about issues that may need to be addressed locally before the young person can be seen in the specialist service
- accepted to the specialist service.

19.19 This change should ensure that children and young people are appropriately engaged within the health system and that the NHS has clear responsibility for their care, including support whilst on the waiting list. It will need to be underpinned by access to support and information for referrers, so the whole health system better understands the needs of this population.

Pathways within the service

19.20 Discussions with clinicians have highlighted the importance of differentiating the subgroups within the referred population who may be at risk and/or need more urgent support, assessment or intervention; there may also be subgroups for whom early advice to parents or school staff may be a more appropriate first step.

19.21 If accepted to the specialist service the child/young person should:

- be allocated to the specific pathway within the service (for example, pre-pubertal pathway or adolescent pathway, other specific pathways may emerge over time)
- be allocated to a specific clinical team either within the DLSS or the tertiary team, to include relevant skills for that person's identified needs (for example, ASD expertise, occupational therapy to address issues of participation etc.).
- receive a full assessment and holistic plan to meet their identified needs.

19.22 Children and young people should be able to move flexibly between different elements of the service in a step-up or step-down model, allowing them and their parents/carers to make decisions at their own pace without requiring rereferral into the system. This could reduce the sense of urgency a young person may feel when first accessing the service. The current evidence base suggests that children who

present with gender incongruence at a young age are most likely to desist before puberty, although for a small number the incongruence will persist. Parents and families need support and advice about how best to support their children in a balanced and non-judgemental way. In reviewing cases put forward for puberty blockers, the MPRG noted that children who had socially transitioned early and completely were likely to approach puberty in a fearful and anxious state because of living 'in stealth'. Helping parents and families to ensure that options remain open and flexible for the child, whilst ensuring that the child is able to function well in school and socially is an important aspect of care provision and there should be no lower age limit for accessing such help and support. Importantly some children within this group who remain gender incongruent into puberty may benefit from puberty blockers and will be able to enter the specialist component of the service and access the puberty blocker trial in a timely way, if already under the supervision of the regional network.

Recommendation 22:

Within each regional network, a separate pathway should be established for pre-pubertal children and their families. Providers should ensure that pre-pubertal children and their parents/carers are prioritised for early discussion with a professional with relevant experience.

Discharge

19.23 Children and young people accessing gender services may be discharged as follows:

- to other NHS services according to their individualised care plan
- back to primary care
- a transfer to adult gender services.

Transfer to adult gender services

19.24 Currently, young people may transition to adult gender services from the age of 17. These adult services are perceived to be quite different from GIDS, and young people presenting later may therefore not have access to the same holistic care as described in this report.

19.25 There is also concern about the impact on the young person of changing clinicians at a crucial point in their care, particularly for those with neurodiversity/special educational needs or other vulnerabilities.

19.26 The Review considered the wider implications surrounding transition from children and young people's gender services to an adult Gender Dysphoria Clinic (GDC), which include:

- the clinical risk at the point of transfer, which includes increased suicidality, loss to follow-up, extended periods on puberty blockers
- that young people are ageing out whilst on the waiting list having not been seen by the children and young people's gender service
- the waiting list challenges within the adult services more generally
- the need for the long-term audit and follow-up research data that are currently lost at the point of transition to adult services

- approaches taken by other NHS services: for example, adult congenital heart disease, which is an already established service; 0-25 oncology services, available in some parts of the country; and the aspiration within the NHS Long Term Plan (2019).

19.27 Currently, significant numbers of young people are being transferred from GIDS to adult services. Some will have been under the care of GIDS, but another group who have turned 17 will not have been seen by GIDS, but whose wait for GIDS is being counted towards the wait for adult services. This is increasing waiting lists for adult services and disadvantaging older adults seeking NHS support.

19.28 Taking account of all the above issues, a follow-through service continuing up to age 25 would remove the need for transition at this vulnerable time and benefit both this younger population and the adult population. This will have the added benefit in the longer-term of also increasing the capacity of adult provision across the country as more gender services are established.

19.29 This would be consistent with other service areas supporting young people that are selectively moving to a '0-25 years' service to improve continuity of care.

"Failure to achieve a safe transition can lead to disengagement, failure to take responsibility for their condition and ultimately poorer health outcomes. By 2028 we aim to move towards service models for young people that offer person-centred and age-appropriate care for mental and physical health needs, rather than an arbitrary transition to adult services based on age not need" (NHS Long Term Plan, 2019).

Recommendation 23:

NHS England should ensure that each Regional Centre has a follow-through service for 17-25-year-olds; either by extending the range of the regional children and young people's service or through linked services, to ensure continuity of care and support at a potentially vulnerable stage in their journey. This will also allow clinical, and research follow up data to be collected.

19.30 The Review requested data on the demographics of referrals into adult gender clinics, and NHS England requested these data from the clinics on the Review's behalf. The dataset was incomplete (particularly for birth-registered gender) but demonstrates that the majority of referrals (around 70%) were birth-registered females under the age of 25. However, the data related to new referrals only and did not include direct referrals of GIDS patients who had reached the age of 17. Therefore, a conservative estimate would be that 17-25 year olds account for around 75% of referrals to adult gender clinics.

Table 11: Referrals received and referrals accepted by Adult Gender Dysphoria Clinics in England April 2023 - July 2023

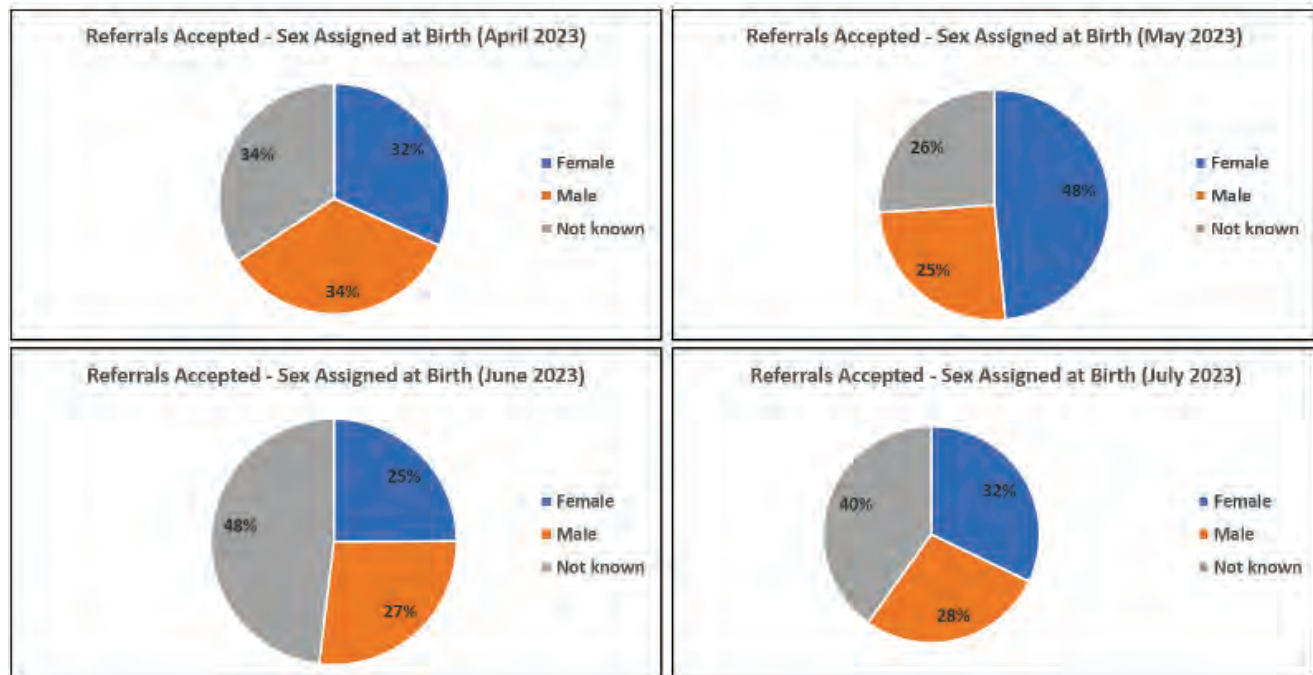
REFERRALS RECEIVED (AGE OF INDIVIDUALS)	APRIL 2023	MAY 2023	JUNE 2023	JULY 2023
Total Aged under 25 years	268	621	503	521
Total Aged 25-49 years	133	150	231	218
Total Aged 50 Years and over	21	21	28	38
Total	422	792	762	777

REFERRALS ACCEPTED (AGE OF INDIVIDUALS)	APRIL 2023	MAY 2023	JUNE 2023	JULY 2023
Total Aged under 25 years	245	603	447	496
Total Aged 25-49 years	125	145	218	213
Total Aged 50 Years and over	23	20	24	37
Total	393	768	689	746

Source: The Gender Identity Development Service Audit Report, Arden & GEM

NB: All data used has been provided to NHS Arden & GEM CSU by Adult Gender Dysphoria Clinics (GDCs). April 2023 was the first month the GDCs reported activity data using a new template/process. As such data collected/reported in April and May was experimental and data quality has improved since this period.

Figure 43: Referrals received and referrals accepted by Adult Gender Dysphoria Clinics in England, April 2023 - July 2023



Source: The Gender Identity Development Service Audit Report, Arden & GEM

NB: All data has been provided to NHS AGEM CSU by GDCs. April 2023 was the first month the GDCs reported activity data using a new template/process. As such data collected/reported in April and May was experimental and data quality has improved since this period. No data was provided by Northampton, Newcastle, Nottingham or Exeter GDCs for referrals received/accepted (sex assigned at birth). AGEM CSU: Arden & GEM Commissioning Support Unit; GDC: Adult Gender Dysphoria Clinic.

19.31 While provision within the NHS adult gender services is outside the scope of this Review, a number of current and past GDC staff have contacted the Review in confidence with concerns about their experiences working in adult gender services. Their experiences covered clinics across different parts of the country, and the Review will set out the main points of concern to NHS England. The consistent messages are represented below.

- Clinicians confirmed the changing demographic as demonstrated by the data above. They described how this changed over a 2-year period between 2017 and 2019, from a mixed age range group with a majority of birth-registered males to 70-80% birth-registered females under the age of 25.
- In terms of complexity, clinicians described a large percentage of the patients having various combinations of confusion about sexuality, psychosis, neurodevelopmental disorders, trauma and deprivation, forensic issues and a range of other undiagnosed conditions.
- There was an expectation that patients would be started on masculinising/feminising hormones by their second appointment, which was a cause of concern given the complexity of presentations.
- Clinicians reported seeing an increasing number of detransitioners, describing how they often moved between clinics as they preferred not to return to the clinic that had originally treated them.

19.32 As the services for children and young people develop, a strategic approach will be needed to ensure that adult service provision takes account of different population needs and emerging evidence.

Recommendation 24:

Given that the changing demographic presenting to children and young people's services is reflected in a change of presentations to adult services, NHS England should consider bringing forward any planned update of the adult service specification and review the model of care and operating procedures.

19.36 The Review has heard that people experiencing regret may be hesitant to engage with the gender services that supported them through their transition. Consideration should be given to whether existing service specifications need to be adapted to specifically provide for detransition pathways, or whether this should be a separately commissioned service. This should be in consultation with people who have been through detransition.

Recommendation 25:

NHS England should ensure there is provision for people considering detransition, recognising that they may not wish to re-engage with the services they were previously under.

Detransition

19.33 The issues around de/retransition have been highlighted in Part 4 in relation to the outcomes of medical interventions and long-term follow-up. There is a need for better services and pathways for this group, many of whom are living with the irreversible effects of transition and no clear way to access services.

19.34 NHS gender services should support all those presenting with gender incongruence and dysphoria, whether that be to transition, detransition or retransition. Those who choose to detransition should be carefully monitored in a supportive setting, particularly when coming off hormone treatments.

19.35 It is also important that services understand and learn from those who choose to detransition as their experience can be used to inform understanding of what services are required earlier in the pathway. There is also the need for more research to understand what factors contribute to the decision to detransition.

Private provision

19.37 The Review has heard that a number of young people have sought private provision whilst on the waiting list for GIDS, and about families trying to balance the risks of obtaining unregulated and potentially dangerous hormone supplies over the internet with the ongoing trauma of prolonged waits for assessment. Feedback from the lived experience focus groups presents this as "a forced choice (because the NHS provision is not accessible in a timely way) rather than a preference". The ongoing cost of this treatment and the subsequent monitoring can be prohibitive for some.

19.38 Additionally, GPs have expressed concern about being pressurised to prescribe puberty blockers or masculinising/feminising hormones after these have been initiated by private providers and that there is a lack of clarity around their responsibilities in relation to monitoring.

19.39 The Review understands and shares the concerns about the use of unregulated medications and of providers that are not regulated within the UK. Any clinician who ascertains that a young person is being given drugs from an unregulated source should make the young person and their family aware of the risks of such treatment.

19.40 In terms of shared care and prescribing responsibility, this should mirror other areas of practice. Specifically, no clinician should prescribe outside their competence, nor should GPs be expected to enter into a shared care arrangement with a private provider, particularly if that private provider is acting outside NHS guidance. Additionally, pharmacists are responsible for ensuring medications prescribed to patients are suitable (General Pharmaceutical Council, n.d.).

19.41 However, there should be an arrangement to carry out relevant investigations ensure a young person is not coming to harm (for example, monitoring bone density).

19.42 In terms of funding, NHS England will normally only fund the treatment of a patient who has transferred from privately funded healthcare where their NHS clinician is content that the treatment is clinically indicated. This decision would usually require an individual to join the appropriate waiting list to be assessed by the NHS clinician within NHS protocols before the decision could be made. The prescription could then be continued if the clinician were satisfied that the treatment is clinically indicated and safe.

19.43 In the case of puberty blockers, NHS England has set out that these will only be available under a research protocol (NHS England, 2024). On entering the trial, the young person will have a number of tests to establish

their baseline levels for monitoring purposes; for example, in relation to bone density, as well as other initial assessments. If an individual were to have taken puberty blockers outside the study, their eligibility may be affected.

Recommendation 26:

The Department of Health and Social Care and NHS England should consider the implications of private healthcare on any future requests to the NHS for treatment, monitoring and/or involvement in research. This needs to be clearly communicated to patients and private providers.

Recommendation 27:

The Department of Health and Social Care should work with the General Pharmaceutical Council to define the dispensing responsibilities of pharmacists of private prescriptions and consider other statutory solutions that would prevent inappropriate overseas prescribing.

Changing NHS number and access to healthcare

19.44 Currently, when a person requests to change their gender on their NHS record, NHS guidance requires that they are issued with a new NHS number.

19.45 Clinicians have raised concerns about children and young people's NHS numbers being changed inconsistently, as there is no specific guidance for GPs and others as to when this should be done for this population and under what consent.

19.46 This has implications for safeguarding and clinical management of these children and young people, and could affect longer-term health management into adulthood (for example, in terms of screening).

19.47 Safeguarding professionals have described a range of situations where this has put children/young people at risk. These include young people attending hospital after self-harm not being identifiable as a child already on a child protection order; records of previous trauma and/or physical ill health being lost; people who do not have parental responsibility changing a child's name and gender; children being re-registered as the opposite gender in infancy; children on the child protection register being untraceable after moving to a new area.

19.48 The concerns with changing NHS number have also shone a light on the varied experiences and needs of transgender people who are often disadvantaged as they access healthcare (for example, screening services) and risk misdiagnosis.

19.49 It is unclear why an NHS number should need to be changed when the patient is under 18.

19.50 From a research perspective, the issuing of new NHS numbers makes it more difficult to identify the long-term outcomes for a patient population for whom the evidence base is weak.

Recommendation 28:

The NHS and the Department of Health and Social Care needs to review the process and circumstances of changing NHS numbers and find solutions to address the clinical and research implications.

20. Implementation

20.1 The Review recognises that delivery of the aspirations set out in this report will require significant changes. The move to the proposed service model will require a phased approach and it may be several years before the full model is operational across the country. Pragmatic strategic and operational plans are required that set out in a transparent way the steps that will be taken to realise the service transformation. This will be essential to build trust and manage expectations.

20.2 Governance needs to be put in place to oversee implementation of the required changes and provide system-wide leadership. This should be external to the Specialised Commissioning division and draw clinical leadership from professional bodies. Given the level of external interest in these services progress against the implementation plans should be reported.

Recommendation 29:

NHS England should develop an implementation plan with clear milestones towards the future clinical and service model. This should have board level oversight and be developed collaboratively with those responsible for the health of children and young people more generally to support greater integration to meet the wide-ranging needs of complex adolescents.

Recommendation 30:

NHS England should establish robust and comprehensive contract management and audit processes and requirements around the collection of data for the provision of these services. These should be adhered to by the providers responsible for delivering these services for children and young people.

20.3 While the Review has been focused on children and young people with gender incongruence and gender-related distress, the NHS needs to be ambitious in its provision for all children and young people seeking NHS support.

20.4 Consideration should be given to the need to integrate services across health, social care and other sectors, especially for young people with complex and/or multiple needs.

20.5 Through the work of the Review it is clear that the type of holistic service and structures described for gender services could work well for how the NHS supports children and young people more generally.

20.6 NHS provision for adolescents across the board requires greater service and workforce development and sustained investment. Without this we are letting down future generations. NHS England should use this opportunity to integrate investment and development of gender services with the ambitions set out in the NHS Long Term Plan for broader adolescent provision, with consideration given to a complex adolescent pathway.

Wider system learning

20.7 Clinical staff need support and guidance from their professional bodies to apply the evidence-based approaches described in this report. The consortium brought together to develop training resources should also be a vehicle for agreeing professional guidance for their respective clinical groups. This collaborative approach should include processes for listening to the community the service is built for.

20.8 Innovation is important if medicine is to move forward, but there must be a proportionate level of monitoring, oversight and regulation that does not stifle progress, but prevents creep of unproven approaches into clinical practice. Innovation must draw from and contribute to the evidence base.

20.9 Although the GIDS service had set up a research study to evaluate the use of puberty blockers, it failed to publish the results for four years, and continued to act outside of its own findings, and the limitations of the service specification.

Recommendation 31:

Professional bodies must come together to provide leadership and guidance on the clinical management of this population taking account of the findings of this report.

20.10 At a local level regulation of innovation should be integrated with regulation of clinical care. Responsible innovation requires anticipatory governance processes to be put in place, organisational safeguards and submission of innovation to external review. Reporting must include failure as well as success (Centre for Medical Ethics and Law HKU, 2024 [video]).

20.11 At a national level, systems are in place to ensure that any new drug is subjected to rigorous trials, appraisal and approval before unrestricted use on patients. Medical devices are also subject to scrutiny and approval. In response to the lack of such a system being in place for interventional procedures, in 1996 the Safety and Efficacy Register for New Interventional Procedures (SERNIP) was founded by the Royal colleges, and allowed voluntary registration for new procedures. Subsequently the National Institute for Clinical Excellence has taken responsibility for safety and efficacy of interventional procedures (Campbell & Madder, 2003).

20.12 In the case of use of puberty blockers, there was another system weakness in that an off-label use went beyond the usual level of permissiveness in extending use to a very different indication. NICE may be well placed to lead work to address how this kind of innovation should be managed.

Recommendation 32:

Wider guidance applicable to all NHS services should be developed to support providers and commissioners to ensure that innovation is encouraged but that there is appropriate scrutiny and clinical governance to avoid incremental creep of practice in the absence of evidence.

Final thoughts from the Chair

20.13 It has been a privilege to undertake this important and very necessary Review, but it has, at times, been heartbreaking to hear the struggles that young people and their families face trying to navigate their way to care. Over a number of years, the children and young people at the heart of this review have been bypassed by local services and directed to a single national service that, whilst passionate and wholly committed to their care, had developed a fundamentally different philosophy and approach compared to other paediatric and mental health services.

20.14 While it will take a while to build the whole network of services, I very much hope that with this new approach, that brings these young people back into mainstream care, clinical staff will see this is an important and rewarding area of work. Most importantly I hope that the children and young people will benefit from access to a holistic multi-faceted model of care, along with a research infrastructure that will provide them with more robust evidence-based information on which to make decisions that may have long-term implications.

20.15 Finally, I am aware that this report will generate much discussion and that strongly held views will be expressed. While open and constructive debate is needed, I would urge everybody to remember the children and young people trying to live their lives and the families/ carers and clinicians doing their best to support them. All should be treated with compassion and respect.



Glossary



The glossary below sets out a description of some of the terms we have used in the Review.

At times, the Report covers complex scientific concepts and research; the glossary aims to support reader understanding and accessibility.

There is also sometimes no consensus on the best language to use relating to the topic of gender identity. Language changes rapidly and new generations develop varied ways of describing their experiences using different terms and constructs that are relevant to them. The Review tries as far as possible to use language and terms that are respectful and acknowledge diversity, but that also accurately illustrate the complexity of what we are trying to describe and articulate.

The terms we have used may not always feel right to some; nevertheless, it is important to emphasise that the language used is not an indication of a position being taken by the Review.

TERM	ABBREVIATION	DESCRIPTION
Affirmative model		A model of gender healthcare that originated in the USA, which affirms a young person's subjective gender experience while remaining open to fluidity and changes over time (Chen et al., 2021; Ehrensaft et al., 2018; Hidalgo et al., 2013; Olson-Kennedy et al., 2019). This approach is used in some key child and adolescent clinics across the Western world.
Assent		To agree to or approve of something (idea, plan or request), especially after thoughtful consideration.
<u>Attention Deficit Hyperactivity Disorder</u>	ADHD	A neurodevelopmental condition that affects people's behaviour - people with ADHD can seem restless, may have trouble concentrating and may act on impulse. They may also have sleep and anxiety disorders. ADHD is an example of neurodiversity (see below).
Autistic Spectrum Disorder	ASD	<p>The medical name for autism. ASD is a neurological and developmental disorder that affects how people interact with others, communicate, learn and behave.</p> <p>DSM-5 (see below) sets out people with ASD often have:</p> <ul style="list-style-type: none"> • Difficulty with communication and interaction with other people. • Restricted interests and repetitive behaviours. • Symptoms that affect their ability to function in school, work, and other areas of life. <p>ASD is known as a "spectrum" disorder because there is wide variation in the type and severity of symptoms people experience (National Institute of Mental Health, 2024).</p>

TERM	ABBREVIATION	DESCRIPTION
Autonomy		Personal autonomy is the ability of a person to make their own decisions. In health this refers specifically to decisions about their care.
Best interests		<p>Clinicians and the courts seek to act in the best interests of children and young people.</p> <p>The need to act in someone's best interests is outlined in law.</p> <p>For the Mental Capacity Act (MCA) 2005, decisions for someone who cannot decide for themselves must be made in their best interests. Under the Children Act 1989, in any decision of the court about a child (under 18), the welfare of the child must be paramount. For these purposes, there is little or no material difference between the welfare and best interests, and we have used "best interests" throughout the report.</p> <p>Although there is no standard definition of "best interests of the child," the General Medical Council advises that an assessment of best interests will include what is clinically indicated as well as additional factors such as the child or young person's views, the views of parents and others close to the child or young person and cultural, religious and other beliefs and values of the child or young person (General Medical Council, 2018).</p> <p>The Mental Capacity Act, Section 4 and extensive Court of Protection case law, deals with the approach to best interests under that legislation. Whether in the Court of Protection or the High Court, when the court is asked to make an assessment of a child or young person's best interests, it will consider their welfare/best interests in the widest sense. This will include not just medical factors but also social and psychological factors.</p>
Binder		A binder is a purpose-built undergarment used to flatten and reduce the appearance of breasts.
Case-mix		The mix of patients (cases) seen by a health service.

TERM	ABBREVIATION	DESCRIPTION
Child and adolescent mental health services	CAMHS	NHS children and young people's mental health services. CAMHS is a secondary care service for children and young people under the age of 18, that assess and treat young people with moderate to severe mental health difficulties. There are local NHS CAMHS services around the UK, with teams made up of nurses, therapists, psychiatrists, psychologists, support workers and social workers, as well as other professionals (Young Minds, n.d.).
Child and/or young person		<p>In law, everyone under 18 years of age is a child (Children Act 1989) but we recognise that it may be more appropriate to refer to those approaching the age of 18 as a young person, and that such young people may not recognise themselves as a "child".</p> <p>In places, we have referred only to "young person", or only to "child", for example where treatment in question is only given towards the later stages of childhood, closer to the age of 18, or in reference to the parent/child relationship, in which they remain the parents' child, regardless of their age.</p> <p>Otherwise, we have used the phrase "child and/or young person" throughout the report for this reason only, and do not intend there to be a material difference between them other than that.</p>
Cisgender		Used to describe a person whose personal identity and gender identity is the same as their birth registered sex.
Cognitive		Relating to, or involving, the process of thinking and reasoning.
Confidence interval		<p>A range around a measurement that conveys how precise a measurement is.</p> <p>In statistics, a confidence interval is a range of values providing the estimate of an unknown parameter of a population. A confidence interval uses a percentage level to indicate the degree of uncertainty of its construction. This percentage, known as the level of confidence, refers to the proportion of the confidence interval that would capture the true population parameter if the estimate were repeated for numerous samples.</p>

TERM	ABBREVIATION	DESCRIPTION
Confounder		<p>Something that affects the result of an experiment in a way that makes it less clear that one thing causes another, because it has an effect on one of the things being measured (Cambridge Advanced Learner's Dictionary & Thesaurus, n.d.).</p> <p>For example, mortality rates between two groups - one consisting of heavy users of alcohol, one consisting of teetotallers. You may conclude that heavy alcohol use increases the risk of death, however, in reality the situation may be more complex.</p> <p>Alcohol use may not be the only mortality-affecting factor that differs between the two groups, for example, those who consume less alcohol may be more likely to eat a healthier diet, or less likely to smoke, which may in turn affect mortality. These other influencing factors are called confounding variables. Ignoring confounding variables may mean that your results don't reflect reality that well (Ilola, 2018).</p>
Consent		<p>Permission for a clinical intervention (such as an examination, test or treatment) to happen. For consent to be 'informed', information must be disclosed to the person about relevant risks, benefits and alternatives (including the option to take no action), and efforts made to ensure that the information is understood.</p> <p>In legal terms, consent is seen as needing:</p> <ol style="list-style-type: none"> 1. capacity (or Gillick competence under 16) to make the relevant decision 2. to be fully informed (i.e. the information provided about the available options, the material risks and benefits of each option, and of doing nothing, "material" meaning (per the Montgomery Supreme Court judgment in 2015) what a reasonable patient would want to know, and what this patient actually wants to know, NOT what a reasonable doctor would tell them) 3. to be freely given (that is, without coercion).

TERM	ABBREVIATION	DESCRIPTION
Contraindications		A condition or circumstance that suggests or indicates that a particular technique or drug should not be used in the case in question. For example, having a bleeding disorder is a contraindication for taking aspirin because treatment with aspirin may cause excess bleeding.
Court of Appeal		(England and Wales) The Court of Appeal hears appeals against both civil and criminal judgments from the Crown Courts, High Court and County Court. It is second only to the Supreme Court.
Detransition/ detransitioners		The process of discontinuing or reversing a gender transition, often in connection with a change in how the individual identifies or conceptualises their sex or gender since initiating transition (MacKinnon et al., 2023).
Diagnostic and Statistical Manual of Mental Disorders Fifth edition	DSM-5	The standard classification of mental disorders used by mental health professionals in the UK, and internationally, published by the American Psychiatric Association (2013). The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) (2022) is the latest version.
Diagnostic formulation		The comprehensive assessment that includes a patient's history, results of psychological tests, and diagnosis of mental health difficulties.
Divisional Court		(England and Wales) When the High Court of Justice of England and Wales hears a case with at least two judges sitting, it is referred to as the Divisional Court. This is typically the case for certain judicial review cases (as well as some criminal cases).

TERM	ABBREVIATION	DESCRIPTION
Dutch Approach		<p>Protocol published in 1998 by the Amsterdam child and adolescent gender identity clinic (de Vries & Cohen-Kettenis, 2012). The protocol set out that young people being considered for treatment for gender dysphoria with the use of puberty blockers must meet the following criteria:</p> <ul style="list-style-type: none"> • minimum age 12' • life-long gender dysphoria increased around puberty; • psychologically stable without serious comorbid psychiatric disorders that might interfere with the diagnostic process; and • have family support.
Endocrine treatment		Sometimes referred to hormone treatment/therapy. In relation to this clinical area, this term is used to describe the use of gonadotropin-releasing hormones (see below) and feminising and masculinising hormones (see below).
Endocrinologist		An endocrinologist is a medical doctor specialising in diagnosing and treating disorders relating to problems with the body's hormones.
Endocrinology		The study of hormones.
Epidemiology		Epidemiology is the study of how often diseases occur in different groups of people and why. This includes the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems (Centers for Disease Control and Prevention, 2012).
Exploratory approaches		Therapeutic approaches that acknowledge the young person's subjective gender experience, whilst also engaging in an open, curious, non-directive exploration of the meaning of a range of experiences that may connect to gender and broader self-identity (Bonfatto & Crasnow, 2018; Churcher Clarke & Spiliadis, 2019; Di Ceglie, 2009; Spiliadis, 2019).

TERM	ABBREVIATION	DESCRIPTION
Feminising and masculinising hormones (also known as cross-sex hormones, and gender affirming hormones).		Sex hormones given as part of a medical transition for gender dysphoric individuals (testosterone for transgender males and oestrogen for transgender females).
Gender dysphoria		Diagnostic term used by health professionals and found in DSM-5 outlined above (American Psychiatric Association, 2013). Gender dysphoria describes “a marked incongruence between one’s experienced/ expressed gender and assigned gender of at least 6 months duration” which must be manifested by a number of criterion.
Gender fluid		An experience of gender that is not fixed, but changes between two or more identities
Gender identity		This term is used to describe an individual’s internal sense of being male or female or something else.
Gender identity development		The developmental experience of a child or young person in seeking to understand their gender identity over time.
Gender Identity Development Service	GIDS	The service commissioned by NHS England for children and adolescents with gender dysphoria. NHS England decommissioned GIDS as part of a managed transition of the service, initially to two new nationally networked services (Phase 1 providers) based in specialist children’s hospitals.
Gender incongruence		Diagnostic term used by health professionals, found in the WHO International Classification of Diseases ICD-11 (see below). Gender incongruence is characterised by “a marked and persistent incongruence between an individual’s experienced gender and the assigned sex”.

TERM	ABBREVIATION	DESCRIPTION
Gender-questioning		A broad term used to describe children and young people who are in a process of exploration about their gender.
Gender-related distress		A way of describing distress that may arise from a broad range of experiences connected to a child or young person's gender identity development. Often used for young people whereby any formal diagnosis of gender dysphoria has not yet been made.
General Practitioner	GP	A doctor who provides general medical treatment for people who live in a particular area (Cambridge Advanced Learner's Dictionary & Thesaurus, n.d.). GPs deal with a whole range of health problems and manage the care of their patients, referring onto specialists as appropriate.
Gillick competence/ Fraser guidelines		A term derived from the legal case Gillick v West Norfolk And Wisbech AHA, 1984 that is used to decide whether a child or young person up to the age of 16 years is able to consent to their own medical treatment, without the need for parental permission or knowledge. A child or young person will be 'Gillick competent' for that decision if they have the necessary maturity and understanding to make the decision.
Gonadotropin releasing hormone analogues (also known as hormone blockers and puberty blockers)	GnRH	Taking these hormones stops the progress of puberty. The GnRH analogues (puberty blockers) act by competing with the body's natural gonadotrophin releasing hormone. This competition blocks the release of two gonadotrophin hormones important in puberty called Follicular Stimulating Hormone (FSH) and Luteinising Hormone (LH) from the pituitary gland.
High Court		The third highest court in the UK. It deals with all high value and high importance civil law (non-criminal) cases and appeals of decisions made in lower courts. When the High Court sits with more than one judge, as required for certain kinds of cases, it is called the Divisional Court.

TERM	ABBREVIATION	DESCRIPTION
International Classification of Diseases 11th Revision	ICD-11	<p>The International Classification of Diseases (ICD) is a globally used medical classification of anything that is relevant to health care and is used clinically for medical diagnosis. (https://icd.who.int/en).</p> <p>It is developed and annually updated by the World Health Organization (WHO) and is the mandatory global data standard for recording health information. It is currently in its 11th revision (ICD-11).</p>
Living in stealth		Used to describe a person who is living as a member of their identified gender without others being aware this is different from their birth-registered sex.
Looked after children		Children who are in the care of their Local Authority who may be living with foster parents or in a residential care setting.
Mega-analysis		An analytical process by which raw data is pooled across studies (Eisenhauer, 2020).
Meta-analysis		Meta-analysis is the statistical combination of results from two or more separate research studies that address a similar research question to generate an average result (Higgins et al., 2023).
Minority stress		Ongoing stress - including discrimination, exclusion, prejudice and violence - experienced by members of minority groups living in a society that stigmatises their identities (Meyer, 2003).
Multi-disciplinary-team	MDT	The identified group of professional staff who provide a clinical service. As a group they provide experience from diverse disciplinary backgrounds.
Neuro-developmental disorders		The World Health Organization criteria (2022b) defines neurodevelopmental disorders as “behavioural and cognitive disorders that arise during the developmental period that involve significant difficulties in the acquisition and execution of specific intellectual, motor, or social functions”.
Neurodiverse		“Neurodiversity” is a popular term that's used to describe differences in the way people's brains work. It is a combination of traits that are seen as both strengths and challenges. ADHD (see above) is an example of neurodiversity.

TERM	ABBREVIATION	DESCRIPTION
Non-binary		A gender identity that does not fit into the traditional gender binary of male and female (Twist & de Graaf, 2018).
Packer		A packer is an item (e.g. prosthetic device, fabric packer) worn to create the appearance of male genitalia.
Paediatrics		The branch of medicine dealing with children and their medical conditions.
Pass/passing		A person's gender being seen and read in the way they identify.
Precocious puberty		This is when a child's body begins changing into that of an adult (puberty) early - before age 8 in girls and before age 9 in boys.
Primary care		Primary care in the UK includes general practice, community pharmacy, dental and optometry (eye health) services. This tends to be the first point of access to healthcare.
Pseudonymised		<p>Patient confidentiality and anonymity is essential. Sometimes to maintain this, patient information and data needs to be presented in a format that ensures a person is not identifiable. This is called Pseudonymisation.</p> <p>Pseudonymisation is the de-identification of identifiable patient-centric data item values through the use of substitute values. Pseudonymised data can be linked and used for secondary purposes, such as trend analysis and peer comparison, without using identifiable data items.</p>
Psychological formulation		A structured approach to understanding the factors underlying distressing states in a way that informs the changes needed and the therapeutic intervention for these changes to occur.
Psychosocial		Describes the psychological and social factors that encompass broader wellbeing.
Puberty blockers		See gonadotropin-releasing hormone analogues above.

TERM	ABBREVIATION	DESCRIPTION
Retransition		<p>Resuming a gender transition following detransition. Some people who have detransitioned may use this term to:</p> <ul style="list-style-type: none"> • indicate restarting hormone therapy for medical reasons, but without re-identifying as transgender. • refer to re-identifying since initiating a gender transition such as moving from a binary transgender identity to non-binary. • describe stopping or reversing transition (MacKinnon et al., 2023).
Secondary care		Hospital and community health care services that do not provide specialist care and are usually relatively close to the patient. For children this will include Child and Adolescent Mental Health Services (CAMHS), child development and general paediatric services.
Service specification		A service specification clearly defines the standards of care expected from organisations funded by NHS England to provide specialised care. The specifications are developed by specialised clinicians, commissioners, expert patients and public health representatives to describe both core and developmental service standards. Core standards are those that all funded providers should be able to demonstrate, with developmental standards being those which may require further changes in practice over time to provide excellence in the field.
Sex-of-rearing		<p>The gender-specific upbringing by which a child is brought up.</p> <p>In children with Differences in Sex Development (DSD) sex-of-rearing is decided by parents according to the child's biological birth sex (i.e. phenotype).</p>
Social contagion		The spread of ideas, attitudes, or behaviour patterns in a group through imitation and conformity (Colman, 2014).

TERM	ABBREVIATION	DESCRIPTION
Specialised services		<p>NHS specialised services support people with a range of rare and complex conditions. Three factors determine whether NHS England commissions a service as a prescribed specialised service. These are:</p> <ul style="list-style-type: none"> • The number of individuals who require the service; • The cost of providing the service or facility; <p>The number of people able to provide the service or facility.</p>
Tanner Stage		Tanner Staging, also known as Sexual Maturity Rating, is a classification of puberty by stage of development. This ranges from Stage 1, before physical signs of puberty appear, to Stage 5 at full maturity. The name originates from Professor JM Tanner, a child development expert, was the first to identify the visible stages of puberty.
Tertiary care		Tertiary care is the specialist end of the NHS. These services relate to complex or rare conditions. Services are usually delivered in a number of specialist hospitals/centres.
Transgender	trans	This is an umbrella term that includes a range of people whose gender identity is different from the sex they were registered at birth.
Transition		These are the steps a person may take to live in the gender in which they identify. This may involve different things, such as changing elements of social presentation and role and/or medical intervention for some.
Watchful waiting		An approach by which a child/young person's gender journey is observed (without intervention) to see how their gender identity and expression naturally evolves.

This page is intentionally left blank

References



Abi-Jaoude, E., Naylor, K. T., & Pignatiello, A. (2020). Smartphones, social media use and Youth Mental Health. *Canadian Medical Association Journal*, 192(6). <https://doi.org/10.1503/cmaj.190434>

AGREE Next Steps Consortium (2017). The AGREE II Instrument [Electronic version]. <https://www.agreetrust.org/wp-content/uploads/2017/12/AGREE-II-Users-Manual-and-23-item-Instrument-2009-Update-2017.pdf>

Aitken, M., Steensma, T. D., Blanchard, R., VanderLaan, D. P., Wood, H., Fuentes, A., Spegg, C., Wasserman, L., Ames, M., Fitzsimmons, C. L., Leef, J. H., Lishak, V., Reim, E., Takagi, A., Vinik, J., Wreford, J., Cohen-Kettenis, P. T., de Vries, A. L. C., Kreukels, B. P. C., & Zucker, K. J. (2015). Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. *The Journal of Sexual Medicine*, 12(3), 756–763. <https://doi.org/10.1111/jsm.12817>

American Psychiatric Association. (2013). *Diagnostic And Statistical Manual Of Mental Disorders, Fifth Edition* (DSM-5). <https://doi.org/10.1176/appi.books.9780890425596>

American Psychiatric Association. (2022). *Diagnostic And Statistical Manual Of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR). <https://doi.org/10.1176/appi.books.9780890425787>

Arian, M., Haque, M., Johal, L., Mathur, P., Nel, W., Rais, A., Sandhu, R., & Sharma, S. (2013). Maturation of the adolescent brain. *Neuropsychiatric Disease and Treatment*, 9, 449–461. <https://doi.org/10.2147/ndt.s39776>

Ashley, F., Parsa, N., kus, til, & MacKinnon, K. R. (2023). Do gender assessments prevent regret in transgender healthcare? A narrative review. *Psychology of Sexual Orientation and Gender Diversity*. <https://doi.org/10.1037/sgd0000672>

Babu, R., & Shah, U. (2021). Gender identity disorder (GID) in adolescents and adults with differences of sex development (DSD): A systematic review and meta-analysis. *Journal of Pediatric Urology*, 17(1), 39–47. <https://doi.org/10.1016/j.jpuro.2020.11.017>

Baker, K. E., Wilson, L. M., Sharma, R., Dukhanin, V., McArthur, K., & Robinson, K. A. (2021). Hormone therapy, mental health, and quality of life among transgender people: A systematic review. *Journal of the Endocrine Society*, 5(4). <https://doi.org/10.1210/jendso/bvab011>

Bakker, J. (2014). Sex Differentiation: Organizing Effects of Sex Hormones. In: Kreukels, B., Steensma, T., de Vries, A. (eds) *Gender Dysphoria and Disorders of Sex Development. Focus on Sexuality Research*. Springer, Boston, MA. https://doi.org/10.1007/978-1-4614-7441-8_1

Balogh, E. P., Miller, B. T., Ball, J. R., Committee on Diagnostic Error in Health Care, Board on Health Care Services, Institute of Medicine, & The National Academies of Sciences, Engineering, and Medicine (Eds.). (2015). *Improving Diagnosis in Health Care*. National Academies Press (US). <https://doi.org/10.17226/21794>

Baxendale, S. (2024). The impact of suppressing puberty on neuropsychological function: A Review. *Acta Paediatrica*. <https://doi.org/10.1111/apa.17150>

Beck, D., Ferschmann, L., MacSweeney, N., Norbom, L. B., Wiker, T., Aksnes, E., Karl, V., Dégeilh, F., Holm, M., Mills, K. L., Andreassen, O. A., Agartz, I., Westlye, L. T., von Soest, T., & Tamnes, C. K. (2023). Puberty differentially predicts brain maturation in male and female youth: A longitudinal ABCD study. *Developmental Cognitive Neuroscience*, 61, 101261. <https://doi.org/10.1016/j.dcn.2023.101261>

Bell v Tavistock (Court of Appeal) [2021] EWCA Civ 1363 <https://www.judiciary.uk/wp-content/uploads/2022/07/Bell-v-Tavistock-judgment-170921.pdf>

Bell v Tavistock (Divisional Court) [2020] EWHC 3274 (Admin) <https://www.judiciary.uk/wp-content/uploads/2020/12/Bell-v-Tavistock-Judgment.pdf>

Berenbaum, S. A., & Beltz, A. M. (2011). Sexual differentiation of human behavior: Effects of prenatal and pubertal organizational hormones. *Frontiers in Neuroendocrinology*, 32(2), 183–200. <https://doi.org/10.1016/j.yfrne.2011.03.001>

Biggs, M. (2020). Gender dysphoria and psychological functioning in adolescents treated with gnrha: Comparing Dutch and English prospective studies. *Archives of Sexual Behavior*, 49(7), 2231–2236. <https://doi.org/10.1007/s10508-020-01764-1>

Biggs, M. (2022). The Dutch protocol for juvenile transsexuals: Origins and evidence. *Journal of Sex & Marital Therapy*, 49(4), 348–368. <https://doi.org/10.1080/0092623x.2022.2121238>

Blakemore, S.-J. (2018). Avoiding social risk in adolescence. *Current Directions in Psychological Science*, 27(2), 116–122. <https://doi.org/10.1177/0963721417738144>

BMJ. (2005). A new series starts: The ABC of adolescence. *BMJ*, 330(7486). <https://doi.org/10.1136/bmj.330.7486.0-f>

Bonfatto, M., & Crasnow, E. (2018). Gender/Ed Identities: An overview of our current work as child psychotherapists in the Gender Identity Development Service. *Journal of Child Psychotherapy*, 44(1), 29–46. <https://doi.org/10.1080/0075417x.2018.1443150>

Boogers, L. S., Wiepjes, C. M., Klink, D. T., Hellinga, I., van Trotsenburg, A. S., den Heijer, M., & Hannema, S. E. (2022). Transgender girls grow tall: Adult height is unaffected by GnRH

analogue and estradiol treatment. *The Journal of Clinical Endocrinology & Metabolism*, 107(9). <https://doi.org/10.1210/clinem/dgac349>

Boyd, I., Hackett, T., & Bewley, S. (2022). Care of transgender patients: A General Practice Quality Improvement Approach. *Healthcare*, 10(1), 121. <https://doi.org/10.3390/healthcare10010121>

Butler, G., Adu-Gyamfi, K., Clarkson, K., El Khairi, R., Kleczewski, S., Roberts, A., Segal, T. Y., Yogamanoharan, K., Alvi, S., Amin, N., Carruthers, P., Dover, S., Eastman, J., Mushtaq, T., Masic, U., & Carmichael, P. (2022). Discharge outcome analysis of 1089 transgender young people referred to paediatric endocrine clinics in England 2008–2021. *Archives of Disease in Childhood*, 107(11), 1018–1022. <https://doi.org/10.1136/archdischild-2022-324302>

Cambridge Advanced Learner's Dictionary & Thesaurus. (n.d.). Confounder. In *dictionary.cambridge.org*. Retrieved April 2, 2024, from <https://dictionary.cambridge.org/us/dictionary/english/confounder>

Cambridge Advanced Learner's Dictionary & Thesaurus. (n.d.). GP. In *dictionary.cambridge.org*. Retrieved April 2, 2024, from <https://dictionary.cambridge.org/dictionary/english/gp>

Campbell, B., & Maddern, G. (2003). Safety and efficacy of interventional procedures: Scrutinising the evidence and issuing guidelines without stifling innovation. *BMJ*, 326(7385), 347–348. <https://doi.org/10.1136/bmj.326.7385.347>

Canvin, L., Hawthorne, O., & Panting, H. (2022). Supporting young people to manage gender-related distress using third-wave cognitive behavioural theory, ideas and Practice. *Clinical Child Psychology and Psychiatry*, 27(4), 1246–1262. <https://doi.org/10.1177/13591045211068729>

- Care Quality Commission (2021). *The Tavistock and Portman NHS Foundation Trust Gender Identity Service Inspection Report*. London: CQC. <https://api.cqc.org.uk/public/v1/reports/6e4fbf84-909c-46d7-835c-caf304cdd485?20221129062700>
- Carmichael, P., Butler, G., Masic, U., Cole, T. J., De Stavola, B. L., Davidson, S., Skageberg, E. M., Khadr, S., & Viner, R. M. (2021). Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK. *PLOS ONE*, 16(2). <https://doi.org/10.1371/journal.pone.0243894>
- Carswell, J. M., Lopez, X., & Rosenthal, S. M. (2022). The Evolution of Adolescent Gender-Affirming Care: An Historical Perspective. *Hormone research in paediatrics*, 95(6), 649–656. <https://doi.org/10.1159/000526721>
- Cass, H. (2022). Independent Review of Gender Identity Services for Children and Young People: Interim report. <https://cass.independent-review.uk/publications/interim-report/>
- Centers for Disease Control and Prevention. (2012). *Principles of Epidemiology in Public Health Practice: An introduction to Applied Epidemiology and Biostatistics*, 3rd ed. <https://archive.cdc.gov/#/details?url=https://www.cdc.gov/csels/dsepd/ss1978/SS1978.pdf>
- Centre for Medical Ethics and Law HKU. (2024, January 12). *Wyng-Hatton Lecture 2023: Smart regulation for medical innovation [Video]*. YouTube. <https://www.youtube.com/watch?v=zBNXDqax91o>
- Chen, D., Abrams, M., Clark, L., Ehrensaft, D., Tishelman, A. C., Chan, Y.-M., Garofalo, R., Olson-Kennedy, J., Rosenthal, S. M., & Hidalgo, M. A. (2021). Psychosocial characteristics of transgender youth seeking gender-affirming medical treatment: Baseline findings from the Trans Youth Care Study. *Journal of Adolescent Health*, 68(6), 1104–1111. <https://doi.org/10.1016/j.jadohealth.2020.07.033>
- Chen, D., Berona, J., Chan, Y.-M., Ehrensaft, D., Garofalo, R., Hidalgo, M. A., Rosenthal, S. M., Tishelman, A. C., & Olson-Kennedy, J. (2023). Psychosocial functioning in transgender youth after 2 years of hormones. *New England Journal of Medicine*, 388(3), 240–250. <https://doi.org/10.1056/nejmoa2206297>
- Children's Commissioner for England. (2023). 'A lot of it is actually just abuse' - Young people and pornography. <https://www.childrenscommissioner.gov.uk/resource/a-lot-of-it-is-actually-just-abuse-young-people-and-pornography/>
- Chiniara, L. N., Bonifacio, H. J., & Palmert, M. R. (2018). Characteristics of adolescents referred to a gender clinic: Are youth seen now different from those in initial reports? *Hormone Research in Paediatrics*, 89(6), 434–441. <https://doi.org/10.1159/000489608>
- Churcher Clarke, A., & Spiliadis, A. (2019). 'taking the lid off the box': The value of Extended Clinical Assessment for adolescents presenting with gender identity difficulties. *Clinical Child Psychology and Psychiatry*, 24(2), 338–352. <https://doi.org/10.1177/1359104518825288>
- Cochrane. (2016, January 27). *What are systematic reviews?*. [Video]. YouTube. <https://www.youtube.com/watch?v=egJIW4vkb1Y>
- Cohen, E., Mackenzie, R. G., & Yates, G. L. (1991). HEADSS, a Psychosocial Risk Assessment Instrument: Implications for designing effective intervention programs for runaway youth. *Journal of Adolescent Health*, 12(7), 539–544. [https://doi.org/10.1016/0197-0070\(91\)90084-y](https://doi.org/10.1016/0197-0070(91)90084-y)
- Cohen-Kettenis, P. T., & Gooren, L. J. G. (1999). Transsexualism. *Journal of Psychosomatic Research*, 46(4), 315–333. <https://doi.org/10.1016/j.jadohealth.2020.07.033>

org/10.1016/s0022-3999(98)00085-3

Cohen-Kettenis, P. T., & van Goozen, S. H. (1998). Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent. *European Child & Adolescent Psychiatry*, 7(4), 246–248. <https://doi.org/10.1007/s007870050073>

Coleman, E., Radix, A. E., Bouman, W. P., Brown, G. R., de Vries, A. L., Deutsch, M. B., Ettner, R., Fraser, L., Goodman, M., Green, J., Hancock, A. B., Johnson, T. W., Karasic, D. H., Knudson, G. A., Leibowitz, S. F., Meyer-Bahlburg, H. F., Monstrey, S. J., Motmans, J., Nahata, L., ... Arcelus, J. (2022). Standards of care for the health of transgender and gender diverse people, version 8. *International Journal of Transgender Health*, 23(sup1). <https://doi.org/10.1080/26895269.2022.2100644>

Colman, A. M. (2014). Social contagion. In *A Dictionary of Psychology* (3 ed.). Oxford Reference. Oxford University Press. Retrieved April 2, 2024, from <https://www.oxfordreference.com/display/10.1093/acref/9780199534067.001.0001/acref-9780199534067-e-7741?rskey=eqJu3z&result=8033>

Condat, A., Mendes, N., & Cohen, D. (2022). Variations in genital development, gender identities and consent to care. *Bulletin de l'Académie Nationale de Médecine*, 206(3), 418–423. <https://doi.org/10.1016/j.banm.2021.12.014>

Davis, J. T., & Hines, M. (2020). How large are gender differences in toy preferences? A systematic review and meta-analysis of Toy Preference Research. *Archives of Sexual Behavior*, 49(2), 373–394. <https://doi.org/10.1007/s10508-019-01624-7>

De Castro, C., Solerdelcoll, M., Plana, M. T., Halperin, I., Mora, M., Ribera, L., Castelo-Branco, C., Gómez-Gil, E., & Vidal, A. (2024). High persistence in Spanish transgender

minors: 18 years of experience of the Gender Identity Unit of Catalonia. *Spanish Journal of Psychiatry and Mental Health*, 17(1), 35–40. <https://doi.org/10.1016/j.rpsm.2022.02.001>

de Graaf, N. M., Giovanardi, G., Zitz, C., & Carmichael, P. (2018). Sex ratio in children and adolescents referred to the Gender Identity Development Service in the UK (2009–2016). *Archives of Sexual Behavior*, 47(5), 1301–1304. <https://doi.org/10.1007/s10508-018-1204-9>

de Graaf, N. M., Steensma, T. D., Carmichael, P., VanderLaan, D. P., Aitken, M., Cohen-Kettenis, P. T., de Vries, A. L., Kreukels, B. P., Wasserman, L., Wood, H., & Zucker, K. J. (2020). Suicidality in clinic-referred transgender adolescents. *European Child & Adolescent Psychiatry*, 31(1), 67–83. <https://doi.org/10.1007/s00787-020-01663-9>

de Vries, A. L. C., Doreleijers, T. A. H., Steensma, T. D., & Cohen-Kettenis, P. T. (2011a). Psychiatric comorbidity in gender dysphoric adolescents. *Journal of Child Psychology and Psychiatry*, 52(11), 1195–1202. <https://doi.org/10.1111/j.1469-7610.2011.02426.x>

de Vries, A. L. C., McGuire, J. K., Steensma, T. D., Wagenaar, E. C. F., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2014). Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics*, 134(4), 696–704. <https://doi.org/10.1542/peds.2013-2958>

de Vries, A. L. C., Steensma, T. D., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2011b). Puberty suppression in adolescents with gender identity disorder: A prospective follow up study. *The Journal of Sexual Medicine*, 8(8), 2276–2283. <https://doi.org/10.1111/j.1743-6109.2010.01943.x>

de Vries, A. L., & Cohen-Kettenis, P. T. (2012). Clinical management of gender dysphoria in children and adolescents: The Dutch approach.

Journal of Homosexuality, 59(3), 301–320.
<https://doi.org/10.1080/00918369.2012.653300>

de Vries, A. L., Kreukels, B. P., Steensma, T. D., & McGuire, J. K. (2013). Gender Identity Development: A biopsychosocial perspective. *Gender Dysphoria and Disorders of Sex Development*, 53–80. https://doi.org/10.1007/978-1-4614-7441-8_3

de Vries, A. L., Noens, I. L., Cohen-Kettenis, P. T., van Berckelaer-Onnes, I. A., & Doreleijers, T. A. (2010). Autism spectrum disorders in gender dysphoric children and adolescents. *Journal of Autism and Developmental Disorders*, 40(8), 930–936. <https://doi.org/10.1007/s10803-010-0935-9>

de Vries, A. L., Steensma, T. D., Cohen-Kettenis, P. T., VanderLaan, D. P., & Zucker, K. J. (2015). Poor peer relations predict parent- and self-reported behavioral and emotional problems of adolescents with gender dysphoria: A cross-national, cross-clinic comparative analysis. *European Child & Adolescent Psychiatry*, 25(6), 579–588. <https://doi.org/10.1007/s00787-015-0764-7>

Delemarre-van de Waal, H. A., & Cohen-Kettenis, P. T. (2006). Clinical management of gender identity disorder in adolescents: A protocol on psychological and Paediatric Endocrinology aspects. *European Journal of Endocrinology*, 155(suppl_1). <https://doi.org/10.1530/eje.1.02231>

deMayo, B. E., Jordan, A. E., & Olson, K. R. (2022). Gender development in gender diverse children. *Annual Review of Developmental Psychology*, 4(1), 207–229. <https://doi.org/10.1146/annurev-devpsych-121020-034014>

Di Ceglie D, Freedman D, Mc Pherson S, Richardson P. (2002). Children and Adolescents Referred to a Specialist Gender Identity Development Service: Clinical Features and Demographic Characteristics. *International*

Journal of Transgenderism 5(4). http://www.symposion.com/ijt/ijtvo06no01_01.htm

Di Ceglie, D. (2009). Engaging young people with atypical gender identity development in therapeutic work: A developmental approach. *Journal of Child Psychotherapy*, 35(1), 3–12. <https://doi.org/10.1080/00754170902764868>

Drummond, K. D., Bradley, S. J., Peterson-Badali, M., & Zucker, K. J. (2008). A follow-up study of girls with gender identity disorder. *Developmental Psychology*, 44(1), 34–45. <https://doi.org/10.1037/0012-1649.44.1.34>

Ehrensaft, D. (2017). Gender nonconforming youth: Current perspectives. *Adolescent Health, Medicine and Therapeutics*, Volume 8, 57–67. <https://doi.org/10.2147/ahmt.s110859>

Ehrensaft, D., Giammattei, S. V., Storck, K., Tishelman, A. C., & St. Amand, C. (2018). Prepubertal social gender transitions: What we know; what we can learn—a view from a gender affirmative lens. *International Journal of Transgenderism*, 19(2), 251–268. <https://doi.org/10.1080/15532739.2017.1414649>

Eisenhauer, J. G. (2020). Meta analysis and mega analysis: A simple introduction. *Teaching Statistics*, 43(1), 21–27. <https://doi.org/10.1111/test.12242>

Elkadi, J., Chudleigh, C., Maguire, A. M., Ambler, G. R., Scher, S., & Kozłowska, K. (2023). Developmental pathway choices of young people presenting to a gender service with gender distress: A prospective follow-up study. *Children*, 10(2), 314. <https://doi.org/10.3390/children10020314>

General Medical Council. (2018). 0-18 years – guidance for all doctors.

General Medical Council. (2020). Decision making and consent.

General Medical Council. (2021). Good practice in prescribing and managing medicines and

devices (76-78).

General Pharmaceutical Council. (n.d.). *What does a pharmacist do?* Retrieved March 5, 2024, from <https://www.pharmacyregulation.org/raising-concerns/raising-concerns-about-pharmacy-professional/what-expect-your-pharmacy/what-does-0#:~:text=Pharmacists%20are%20responsible%20for%3A&text=ensuring%20that%20the%20supply%20of,occur%20and%20answering%20patients%27%20questions>

Giedd, J. N. (2016). *The amazing teen brain*. Scientific American. <https://www.scientificamerican.com/article/the-amazing-teen-brain/>

Glntborg, D., Møller, J.-J. K., Rubin, K. H., Lidegaard, Ø., T'Sjoen, G., Larsen, M.-L. J., Hilden, M., & Andersen, M. S. (2023). Gender-affirming treatment and mental health diagnoses in Danish transgender persons: A nationwide register-based Cohort Study. *European Journal of Endocrinology*, 189(3), 336–345. <https://doi.org/10.1093/ejendo/lvad119>

Goddings, A., Beltz, A., Peper, J. S., Crone, E. A., & Braams, B. R. (2019). Understanding the role of puberty in structural and functional development of the Adolescent Brain. *Journal of Research on Adolescence*, 29(1), 32–53. <https://doi.org/10.1111/jora.12408>

González-Herrero, B., Morgante, F., Pagonabarraga, J., Stanton, B., & Edwards, M. J. (2022). Autism spectrum disorder may be highly prevalent in people with functional neurological disorders. *Journal of Clinical Medicine*, 12(1), 299. <https://doi.org/10.3390/jcm12010299>

GRADE working group. (n.d.). *Welcome to the GRADE Working Group*. GRADE working group. <https://www.gradeworkinggroup.org/>

Green, R., Roberts, C. W., Williams, K., Goodman, M., & Mixon, A. (1987). Specific

cross-gender behaviour in boyhood and later homosexual orientation. *British Journal of Psychiatry*, 151(1), 84–88. <https://doi.org/10.1192/bjp.151.1.84>

Hall, R., Mitchell, L., & Sachdeva, J. (2021). Access to care and frequency of detransition among a cohort discharged by a UK national adult gender identity clinic: Retrospective case-note review. *BJPsych Open*, 7(6). <https://doi.org/10.1192/bjo.2021.1022>

Hall, R., Taylor, J., Heathcote, C., Langton, T., Hewitt, C. E. & Fraser, L. (2024). Gender services for children and adolescents across the EU-15+ countries: an online survey. *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326348>

Hall, R., Taylor, J., Hewitt, C. E., Heathcote, C., Jarvis, S.W., Langton, T., & Fraser, L. (2024). Impact of social transition in relation to gender for children and adolescents: a systematic review. *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326112>

Hanson, E. (n.d.). *What is the impact of pornography on young people? A research briefing for educators*. cht.nhs.uk. https://sexualhealth.cht.nhs.uk/fileadmin/sexualHealth/contentUploads/Documents/What_is_the_impact_of_pornography_on_young_people_-_A_research_briefing_for_educators.pdf

Havighurst, S. S., & Downey, L. (2009). Clinical reasoning for child and adolescent mental health practitioners: The mindful formulation. *Clinical Child Psychology and Psychiatry*, 14(2), 251–271. <https://doi.org/10.1177/1359104508100888>

Heathcote, C., Taylor, J., Hall, R., Jarvis, S., Langton, T., Hewitt, C. E., & Fraser, L. (2024). Psychosocial support interventions for children and adolescents experiencing gender dysphoria or incongruence: a systematic review.

Archives of Disease in Childhood, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326347>

Hidalgo, M. A., Ehrensaft, D., Tishelman, A. C., Clark, L. F., Garofalo, R., Rosenthal, S. M., Spack, N. P., & Olson, J. (2013). The gender affirmative model: What we know and what we aim to learn. *Human Development*, 56(5), 285–290. <https://doi.org/10.1159/000355235>

Higgins, J. P. T., Thomas, J., Chandler, J., Cumpston, M., Li, T., Page, M. J., Welch, V. A. (editors). (updated August 2023). *Cochrane Handbook for Systematic Reviews of Interventions* version 6.4. Cochrane. www.training.cochrane.org/handbook.

Hines, M. (2015). Gendered development. *Handbook of Child Psychology and Developmental Science*, 1–46. <https://doi.org/10.1002/9781118963418.childpsy320>

Hines, M. (2020a). Human gender development. *Neuroscience & Biobehavioral Reviews*, 118, 89–96. <https://doi.org/10.1016/j.neubiorev.2020.07.018>

Hines, M. (2020b). Neuroscience and sex/gender: Looking back and forward. *The Journal of Neuroscience*, 40(1), 37–43. <https://doi.org/10.1523/jneurosci.0750-19.2019>

Hoffmann-Eßer, W., Siering, U., Neugebauer, E. A., Brockhaus, A. C., McGauran, N., & Eikermann, M. (2018). Guideline appraisal with AGREE II: Online survey of the potential influence of agree II items on overall assessment of guideline quality and recommendation for use. *BMC Health Services Research*, 18(1). <https://doi.org/10.1186/s12913-018-2954-8>

Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body image*, 17, 100–110. <https://doi.org/10.1016/j.bodyim.2016.02.008>

[bodyim.2016.02.008](https://doi.org/10.1016/j.bodyim.2016.02.008)

Holt, V., Skagerberg, E., & Dunsford, M. (2014). Young people with features of gender dysphoria: Demographics and associated difficulties. *Clinical Child Psychology and Psychiatry*, 21(1), 108–118. <https://doi.org/10.1177/1359104514558431>

Ilola, E. (2019, November 28). *A beginner's Guide to Confounding*. Students 4 Best Evidence. <https://s4be.cochrane.org/blog/2018/10/01/a-beginners-guide-to-confounding/#:~:text=People%20who%20consume%20less%20alcohol,factors%20are%20called%20confounding%20variables>

Jackson, D. (2023). Suicide-related outcomes following gender-affirming treatment: A Review. *Cureus*. <https://doi.org/10.7759/cureus.36425>

Jayatissa, K. A. (2023). Generation Z – A new lifeline: A systematic literature review. *Sri Lanka Journal of Social Sciences and Humanities*, 3(2), 179–186. <https://doi.org/10.4038/sljsssh.v3i2.110>

Kaltiala, R., Holttinen, T., & Tuisku, K. (2023). Have the psychiatric needs of people seeking gender reassignment changed as their numbers increase? A register study in Finland. *European Psychiatry*, 66(1). <https://doi.org/10.1192/j.eurpsy.2023.2471>

Kaltiala-Heino, R., Bergman, H., Työläjärvä, M., & Frisén, L. (2018). Gender dysphoria in adolescence: current perspectives. *Adolescent health, medicine and therapeutics*, 9, 31–41. <https://doi.org/10.2147/AHMT.S135432>

Kaltiala-Heino, R., Sumia, M., Työläjärvä, M., & Lindberg, N. (2015). Two years of gender identity service for minors: overrepresentation of natal girls with severe problems in adolescent development. *Child and adolescent psychiatry and mental health*, 9, 9. <https://doi.org/10.1186/s13034-015-0042-y>

- Karamanis, G., Karalexi, M., White, R., Frisell, T., Isaksson, J., Skalkidou, A., & Papadopoulos, F. C. (2022). Gender dysphoria in twins: a register-based population study. *Scientific reports*, 12(1), 13439. <https://doi.org/10.1038/s41598-022-17749-0>
- Karvonen, M., Karukivi, M., Kronström, K., & Kaltiala, R. (2022). The nature of co-morbid psychopathology in adolescents with gender dysphoria. *Psychiatry Research*, 317, 114896. <https://doi.org/10.1016/j.psychres.2022.114896>
- Kelly, Y., Zilanawala, A., Booker, C., & Sacker, A. (2018). Social Media Use and Adolescent Mental Health: Findings from the UK millennium cohort study. *EClinicalMedicine*, 6, 59–68. <https://doi.org/10.1016/j.eclim.2018.12.005>
- Klink, D., & Den Heijer, M. (2013). Genetic aspects of gender identity development and gender dysphoria. *Gender Dysphoria and Disorders of Sex Development*, 25–51. https://doi.org/10.1007/978-1-4614-7441-8_2
- Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex-role concepts and attitudes. In E. E. Maccoby (Ed.), *The development of sex differences*. Stanford, Calif.: Stanford University Press, 1966.
- Kozłowska, K., McClure, G., Chudleigh, C., Maguire, A. M., Gessler, D., Scher, S., & Ambler, G. R. (2021). Australian children and adolescents with gender dysphoria: Clinical presentations and challenges experienced by a multidisciplinary team and Gender Service. *Human Systems: Therapy, Culture and Attachments*, 1(1), 70–95. <https://doi.org/10.1177/26344041211010777>
- Krebs, G., Clark, B., Ford, T., & Stringaris, A. (2024). Epidemiology of Body Dysmorphic Disorder and Appearance Preoccupation in Youth: Prevalence, Comorbidity and Psychosocial Impairment. *Journal of the American Academy of Child & Adolescent Psychiatry*. <https://doi.org/10.1016/j.jaac.2024.01.017>
- Kuper, L. E., Stewart, S., Preston, S., Lau, M., & Lopez, X. (2020). Body dissatisfaction and mental health outcomes of youth on gender-affirming hormone therapy. *Pediatrics*, 145(4). <https://doi.org/10.1542/peds.2019-3006>
- Lai, M.-C., Kassee, C., Besney, R., Bonato, S., Hull, L., Mandy, W., Szatmari, P., & Ameis, S. H. (2019). Prevalence of co-occurring mental health diagnoses in the autism population: A systematic review and meta-analysis. *The Lancet Psychiatry*, 6(10), 819–829. [https://doi.org/10.1016/s2215-0366\(19\)30289-5](https://doi.org/10.1016/s2215-0366(19)30289-5)
- Larsen, B., & Luna, B. (2018). Adolescence as a neurobiological critical period for the development of higher-order cognition. *Neuroscience & Biobehavioral Reviews*, 94, 179–195. <https://doi.org/10.1016/j.neubiorev.2018.09.005>
- Lavender, R., Shaw, S., Maninger, J.-K., Butler, G., Carruthers, P., Carmichael, P., & Masic, U. (2023). Impact of hormone treatment on psychosocial functioning in gender-diverse young people. *LGBT Health*, 10(5), 382–390. <https://doi.org/10.1089/lgbt.2022.0201>
- Lee, W. G., Butler, G., Carmichael, P., Rashid, T., Yasmin, E., Morley, R., Barrett, J., Christopher, N., & Sangster, P. (2023). Urological and gynaecological considerations for the use of gonadotropin-releasing hormone analogues in transgender and nonbinary adolescents: A narrative review. *European Urology Focus*, 9(1), 35–41. <https://doi.org/10.1016/j.euf.2022.11.002>
- Littman, L. (2021). Individuals treated for gender dysphoria with medical and/or surgical transition who subsequently detransitioned: A survey of 100 detransitioners. *Archives of Sexual Behavior*, 50(8), 3353–3369. <https://doi.org/10.1007/s10508-021-02163-w>

- Loi-Koe, O., Catanzano, M., & Butler, G. (2018.). Effect of pubertal blockade and cross-sex hormone treatment on the growth spurt in young transgender adolescents: a first report. *Hormone Research in Paediatrics. Pituitary, neuroendocrinology and puberty. ESPE Abstracts* (2018) 89 P-P1-211 <https://doi.org/10.3252/pso.eu.57ESPE.2018>
- Ludvigsson, J. F., Adolfsson, J., Höistad, M., Rydelius, P., Kriström, B., & Landén, M. (2023). A systematic review of hormone treatment for children with gender dysphoria and recommendations for Research. *Acta Paediatrica*, 112(11), 2279–2292. <https://doi.org/10.1111/apa.16791>
- MacKinnon, K. R., Expósito-Campos, P., & Gould, W. A. (2023). Detransition needs further understanding, not controversy. *BMJ*; 381:e073584. <https://doi.org/10.1136/bmj-2022-073584>
- Martino, D., Berg, L., Lerario, M., & Pringsheim, T. (2023). The association between Gender Minority Identity and functional tic-like behaviors during the COVID-19 pandemic (P11-11.013). *Neurology*, 100(17_supplement_2). <https://doi.org/10.1212/wnl.0000000000203064>
- Masic, U., Butler, G., Carruthers, P., & Carmichael, P. (2022). Trajectories of transgender adolescents referred for endocrine intervention in England. *Archives of Disease in Childhood*, 107(11), 1012–1017. <https://doi.org/10.1136/archdischild-2022-324283>
- Mavergames, C., Elliott, J. (n.d.). Living systematic reviews: towards real-time evidence for health-care decision making. In: BMJ Best Practice. *Evidence-based medicine (EBM) toolkit*. Retrieved April 2, 2024, from bestpractice.bmj.com/info/toolkit/discuss-ebm/living-systematic-reviews-towards-real-time-evidence-for-health-care-decision-making
- McPherson, S., & Freedman, D. E. (2023). Psychological outcomes of 12–15-year-olds with gender dysphoria receiving pubertal suppression in the UK: Assessing reliable and clinically significant change. *Journal of Sex & Marital Therapy*, 1–11. <https://doi.org/10.1080/0092623x.2023.2281986>
- Mental Health Law Online. *Mental Capacity Act (MCA) 2005 s4*. (2006, December 16). https://www.mentalhealthlaw.co.uk/MCA_2005_s4
- Meyer, I. H. (2003). Prejudice, social stress, and Mental Health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674–697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Meyer-Bahlburg, H. F. (2005). Gender identity outcome in female-raised 46,XY persons with penile agenesis, cloacal exstrophy of the bladder, or penile ablation. *Archives of Sexual Behavior*, 34(4), 423–438. <https://doi.org/10.1007/s10508-005-4342-9>
- MindEd. (2023). *MindEd Supporting Children and Young People With Gender-related Questions Or Distress And Their Sexual Orientation*. <https://www.minded.org.uk/Catalogue/>
- Montgomery v Lanarkshire Health Board (Scotland)* (Supreme Court) [2015] UKSC 11 <https://www.supremecourt.uk/cases/docs/uksc-2013-0136-judgment.pdf>
- Morgan, C., Webb, R. T., Carr, M. J., Kontopantelis, E., Green, J., Chew-Graham, C. A., Kapur, N., & Ashcroft, D. M. (2017). Incidence, clinical management, and mortality risk following self harm among children and adolescents: Cohort study in primary care. *BMJ*. <https://doi.org/10.1136/bmj.j4351>
- Mueller, S. C., Guillaumon, A., Zubiaurre-Elorza, L., Junque, C., Gomez-Gil, E., Uribe, C., Khorashad, B. S., Khazai, B., Talaei, A., Habel, U., Votinov, M., Derntl, B., Lanzenberger,

R., Seiger, R., Kranz, G. S., Kreukels, B. P. C., Kettenis, P. T., Burke, S. M., Lambalk, N. B., ... Luders, E. (2021). The neuroanatomy of transgender identity: Mega-analytic findings from the Enigma Transgender Persons Working Group. *The Journal of Sexual Medicine*, 18(6), 1122–1129. <https://doi.org/10.1016/j.jsxm.2021.03.079>

Murad, M. H., Mustafa, R. A., Schünemann, H. J., Sultan, S., & Santesso, N. (2017). Rating the certainty in evidence in the absence of a single estimate of effect. *Evidence Based Medicine*, 22(3), 85–87. <https://doi.org/10.1136/ebmed-2017-110668>

Nadrowski, K. (2023). A new flight from womanhood? the importance of working through experiences related to exposure to pornographic content in girls affected by gender dysphoria. *Journal of Sex & Marital Therapy*, 1–10. <https://doi.org/10.1080/0092623x.2023.2276149>

National Child Mortality Database (NCMD). (2023). Child Death Review Data Release: Year ending 31 March 2023. <https://www.ncmd.info/publications/child-death-data-2023/>

National Child Mortality Database. (2021, October). *Suicide in Children and Young People - National Child Mortality Database Programme Thematic Report*. National Child Mortality Database. <https://www.ncmd.info/wp-content/uploads/2021/11/NCMD-Suicide-in-Children-and-Young-People-Report.pdf>

National Institute for Health and Care Excellence (2012): Methods for the development of NICE public health guidance (third edition), Appendix D Glossary of study designs. NICE process and methods [PMG4]

National Institute for Health and Care Excellence (2017). Autism spectrum disorder in under 19s: recognition, referral and diagnosis. NICE clinical guideline CG128. Last updated: 20 Dec 2017

National Institute for Health and Care Excellence (2020a). Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria.

National Institute for Health and Care Excellence (2020b). Evidence review: gender-affirming hormones for children and adolescents with gender dysphoria.

National Institute for Health and Care Excellence (2021). Shared decision making.

National Institute of Mental Health. (2024, February). *Autism spectrum disorder*. <https://www.nimh.nih.gov/health/topics/autism-spectrum-disorders-asd#:~:text=Autism%20spectrum%20disorder%20%28ASD%29%20is%20a%20neurological%20and,appear%20in%20the%20first%20%20years%20of%20life.>

NHS Commissioning Board (2012, December). *Developing Operational Delivery Networks: The Way Forward*. <https://www.england.nhs.uk/wp-content/uploads/2012/12/develop-odns.pdf>

NHS Digital. (2018, November 22). *Mental Health of children and young people in England, 2017: Trends and characteristics*. <https://files.digital.nhs.uk/A0/273EE3/MHCYP%202017%20Trends%20Characteristics.pdf>

NHS Digital. (2023, November 21). *Mental Health of Children and Young People in England, 2023 - wave 4 follow up to the 2017 survey*. <https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2023-wave-4-follow-up/part-1-mental-health>

NHS England. (2019, December 30). *NHS STANDARD CONTRACT FOR GENDER IDENTITY DEVELOPMENT SERVICE FOR CHILDREN AND ADOLESCENTS*. <https://www.england.nhs.uk/wp-content/uploads/2017/04/gender-development-service-children->

adolescents.pdf

NHS England. (2020, July). *Methods: National clinical policies. Methods of development and approval of national clinical policies for directly commissioned specialised services*. <https://www.england.nhs.uk/wp-content/uploads/2016/12/Methods-National-clinical-policies-updated-July-2020-v2.pdf>

NHS England. (2023, June 30) *NHS Long Term Workforce Plan*. <https://www.england.nhs.uk/publication/nhs-long-term-workforce-plan/>

NHS England. (2024, March 12). *Clinical policy: Puberty suppressing hormones (PSH) for children and young people who have gender incongruence / gender dysphoria* [1927]. <https://www.england.nhs.uk/publication/clinical-policy-puberty-suppressing-hormones/>

NHS Long Term Plan. (2019, January 7). *The NHS Long Term Plan*. NHS England. <https://www.longtermplan.nhs.uk/publication/nhs-long-term-plan/>

NIHRTv. (2010, April 22). *Systematic Reviews* [Video]. YouTube. <https://www.youtube.com/watch?v=mAAfvXZPHtE>

Nilles, C., Pringsheim, T. M., & Martino, D. (2022). The recent surge of functional movement disorders: social distress or greater awareness?. *Current opinion in neurology*, 35(4), 485–493. <https://doi.org/10.1097/WCO.0000000000001074>

Nolan, B. J., Zwickl, S., Locke, P., Zajac, J. D., & Cheung, A. S. (2023). Early access to testosterone therapy in transgender and gender-diverse adults seeking masculinization. *JAMA Network Open*, 6(9). <https://doi.org/10.1001/jamanetworkopen.2023.31919>

Office for National Statistics. (2023a, January 6). *Gender Identity, England and Wales: Census 2021*. <https://www.ons.gov.uk/peoplepopulationandcommunity/>

[culturalidentity/genderidentity/bulletins/genderidentityenglandandwales/census2021](https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/genderidentity/bulletins/genderidentityenglandandwales/census2021)

Office for National Statistics. (2023b, January 25). *Gender identity: age and sex, England and Wales: Census 2021* <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/genderidentity/articles/>

Office for National Statistics. (2023c, November 8). *Quality of Census 2021 Gender Identity Data*. <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/genderidentity/articles/>

Office for National Statistics. (2023d, November 1). *Sexual orientation and gender identity quality information for census 2021*. <https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/sexuality/methodologies/>

Olson, K. R., Durwood, L., Horton, R., Gallagher, N. M., & Devor, A. (2022). Gender identity 5 years after Social Transition. *Pediatrics*, 150(2). <https://doi.org/10.1542/peds.2021-056082>

Olson-Kennedy, J., Chan, Y.-M., Rosenthal, S., Hidalgo, M. A., Chen, D., Clark, L., Ehrensaft, D., Tishelman, A., & Garofalo, R. (2019). Creating the Trans Youth Research Network: A collaborative research endeavor. *Transgender Health*, 4(1), 304–312. <https://doi.org/10.1089/trgh.2019.0024>

Olson-Kennedy, J., Cohen-Kettenis, P. T., Kreukels, B. P., Meyer-Bahlburg, H. F., Garofalo, R., Meyer, W., & Rosenthal, S. M. (2016). Research priorities for gender nonconforming/transgender youth: gender identity development and biopsychosocial outcomes. *Current opinion in endocrinology, diabetes, and obesity*, 23(2), 172–179. <https://doi.org/10.1097/MED.0000000000000236>

OpenMD. (2021, July 17). *Levels of evidence. Levels of Evidence in Medical Research*. <https://openmd.com/guide/levels-of-evidence>

- Public Health England. (2019, October). Establishing the evidence base for 'multiple site single service' (MSSS) models of care, Systematic review. https://assets.publishing.service.gov.uk/media/5dbc0e89ed915d1cff49f424/multiple_site_single_service.pdf
- Rautio, D., Gumpert, M., Jassi, A., Krebs, G., Flygare, O., Andrén, P., Monzani, B., Peile, L., Jansson-Fröjmark, M., Lundgren, T., Hillborg, M., Silverberg-Mörse, M., Clark, B., Fernández de la Cruz, L., & Mataix-Cols, D. (2022). Effectiveness of Multimodal Treatment for Young People With Body Dysmorphic Disorder in Two Specialist Clinics. *Behavior therapy*, 53(5), 1037–1049. <https://doi.org/10.1016/j.beth.2022.04.010>
- Ravindranath, O., Calabro, F. J., Foran, W., & Luna, B. (2022). Pubertal development underlies optimization of inhibitory control through specialization of ventrolateral prefrontal cortex. *Developmental cognitive neuroscience*, 58, 101162. <https://doi.org/10.1016/j.dcn.2022.101162>
- Rawee, P., Rosmalen, JGM., Kalverdijk, L., Burke, SM. (2024). Development of Gender Non-Contentedness During Adolescence and Early Adulthood. *Archives of Sexual Behaviour*. Epub ahead of print. <https://doi.org/10.1007/s10508-024-02817-5>.
- Ristori, J., & Steensma, T. D. (2016). Gender dysphoria in childhood. *International review of psychiatry* (Abingdon, England), 28(1), 13–20. <https://doi.org/10.3109/09540261.2015.1115754>
- Ristori, J., Cocchetti, C., Romani, A., Mazzoli, F., Vignozzi, L., Maggi, M., & Fisher, A. D. (2020). Brain Sex Differences Related to Gender Identity Development: Genes or Hormones?. *International journal of molecular sciences*, 21(6), 2123. <https://doi.org/10.3390/ijms21062123>
- Ruuska, S. M., Tuisku, K., Holttinen, T., & Kaltiala, R. (2024). All-cause and suicide mortalities among adolescents and young adults who contacted specialised gender identity services in Finland in 1996-2019: a register study. *BMJ mental health*, 27(1). <https://doi.org/10.1136/bmjment-2023-300940>
- Sisk, C. L., & Zehr, J. L. (2005). Pubertal hormones organize the adolescent brain and behavior. *Frontiers in Neuroendocrinology*, 26(3–4), 163–174. <https://doi.org/10.1016/j.yfrne.2005.10.003>
- Skills for Health, Health Education England and Skill for Care 2016. (2016). *Mental Health Core Skills Education and Training Framework*. Skills for Health. <https://www.skillsforhealth.org.uk/wp-content/uploads/2021/07/CSTF-Eng-Subject-Guide-v1.1.pdf>
- Skordis, N., Butler, G., de Vries, M. C., Main, K., & Hannema, S. E. (2019). ESPE and PES International Survey of Centers and Clinicians Delivering Specialist Care for Children and Adolescents with Gender Dysphoria. *Hormone Research in Paediatrics*, 90(5), 326–331. <https://doi.org/10.1159/000496115>
- Spiliadis, A. (2019). Towards a gender exploratory model: Slowing things down, opening things up and exploring identity development. *Metalogos Systemic Therapy Journal*, 35. https://www.researchgate.net/publication/334559847_Towards_a_Gender_Exploratory_Model_slowing_things_down_opening_things_up_and_exploring_identity_development
- Steensma, T. D., & Cohen-Kettenis, P. T. (2011). Gender transitioning before puberty? *Archives of Sexual Behavior*, 40(4), 649–650. <https://doi.org/10.1007/s10508-011-9752-2>
- Steensma, T. D., & Cohen-Kettenis, P. T. (2015). More than two developmental pathways in children with gender dysphoria? *Journal of*

the American Academy of Child & Adolescent Psychiatry, 54(2), 147–148. <https://doi.org/10.1016/j.jaac.2014.10.016>

Steensma, T. D., Biemond, R., de Boer, F., & Cohen-Kettenis, P. T. (2011). Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study. *Clinical Child Psychology and Psychiatry*, 16(4), 499–516. <https://doi.org/10.1177/1359104510378303>

Steensma, T. D., Kreukels, B. P. C., de Vries, A. L. C., & Cohen-Kettenis, P. T. (2013a). Gender Identity Development in adolescence. *Hormones and Behavior*, 64(2), 288–297. <https://doi.org/10.1016/j.yhbeh.2013.02.020>

Steensma, T. D., McGuire, J. K., Kreukels, B. P. C., Beekman, A. J., & Cohen-Kettenis, P. T. (2013b). Factors associated with Desistence and persistence of childhood gender dysphoria: A quantitative follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(6), 582–590. <https://doi.org/10.1016/j.jaac.2013.03.016>

Strang, J. F., Meagher, H., Kenworthy, L., de Vries, A. L., Menvielle, E., Leibowitz, S., Janssen, A., Cohen-Kettenis, P., Shumer, D. E., Edwards-Leeper, L., Pleak, R. R., Spack, N., Karasic, D. H., Schreier, H., Balleur, A., Tishelman, A., Ehrensaft, D., Rodnan, L., Kuschner, E. S., ... Anthony, L. G. (2016). Initial clinical guidelines for co-occurring autism spectrum disorder and gender dysphoria or incongruence in adolescents. *Journal of Clinical Child and Adolescent Psychology*, 47(1), 105–115. <https://doi.org/10.1080/15374416.2016.1228462>

Swaab, D. F., & Garcia-Falgueras, A. (2009). Sexual differentiation of the human brain in relation to gender identity and sexual orientation. *Functional neurology*, 24(1), 17–28.

Taylor, J., Hall, R., Heathcote, C., Hewitt, C. E., Langton, T., & Fraser, L. (2024). Clinical

guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of recommendations (part 2). *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326500>

Taylor, J., Hall, R., Heathcote, C. E., C., Langton, T., & Fraser, L. (2024). Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of guideline quality (part 1). *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326499>

Taylor, J., Hall, R., Langton, T., Fraser, L., & Hewitt, C. E. (2024). Characteristics of children and adolescents referred to specialist gender services: a systematic review. *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326681>

Taylor, J., Hall, R., Langton, T., Fraser, L., & Hewitt, C. E. (2024). Care pathways of children and adolescents referred to specialist gender services: a systematic review. *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326760>

Taylor, J., Mitchell, A., Hall, R., Heathcote, C., Langton, T., Fraser, L., & Hewitt, C. E. (2024). Interventions to suppress puberty in adolescents experiencing gender dysphoria or incongruence: a systematic review. *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326669>

Taylor, J., Mitchell, A., Hall, R., Langton, T., Fraser, L., & Hewitt, C. E. (2024). Masculinising and feminising hormone interventions for adolescents with gender dysphoria or incongruence: a systematic review. *Archives of Disease in Childhood*, Published Online First: April 2024. <https://doi.org/10.1136/archdischild-2023-326670>

The National Confidential Inquiry into Suicide and Safety in Mental Health. Annual Report: UK patient and general population data, 2010-2020. 2023. University of Manchester. <https://nspa.org.uk/wp-content/uploads/2023/03/NCISH-2023-report-Bookmarked.pdf>

The Tavistock and Portman NHS Foundation Trust. (2015). Board papers - June 2015.

Thoughts on Things and Stuff. (2023, March 7). WPATH 2016 - Dr. Polly Carmichael: *The Tavistock GIDS Experience* [Video]. YouTube. <https://www.youtube.com/watch?v=8HQBfuV3V98>

THRIVE Assessment Tool. (n.d.). Implementing THRIVE. <https://implementingthrive.org/implemented/toolkit/toolkit-phase-1/thrive-assessment/>

Tollit, M. A., Pace, C. C., Telfer, M., Hoq, M., Bryson, J., Fulkoski, N., Cooper, C., & Pang, K. C. (2019). What are the health outcomes of trans and gender diverse young people in Australia? study protocol for the Trans20 Longitudinal Cohort Study. *BMJ Open*, 9(11). <https://doi.org/10.1136/bmjopen-2019-032151>

Trafford, A. M., Carr, M. J., Ashcroft, D. M., Chew-Graham, C. A., Cockcroft, E., Cybulski, L., Garavini, E., Garg, S., Kabir, T., Kapur, N., Temple, R. K., Webb, R. T., & Mok, P. L. (2023). Temporal trends in eating disorder and self-harm incidence rates among adolescents and young adults in the UK in the 2 years since onset of the COVID-19 pandemic: A population-based study. *The Lancet Child & Adolescent*

Health, 7(8), 544–554. [https://doi.org/10.1016/s2352-4642\(23\)00126-8](https://doi.org/10.1016/s2352-4642(23)00126-8)

Twenge, J. M. (2023). *Generations: The real differences between gen Z, millennials, gen X, boomers, and silents--and what they mean for America's future*. Atria Books.

Twist, J., & de Graaf, N. M. (2018). Gender diversity and non-binary presentations in young people attending the United Kingdom's National Gender Identity Development Service. *Clinical Child Psychology and Psychiatry*, 24(2), 277–290. <https://doi.org/10.1177/1359104518804311>

Van Cauwenberg, G., Dhondt, K., & Motmans, J. (2021). Ten years of experience in counseling gender diverse youth in Flanders, Belgium. A clinical overview. *International Journal of Impotence Research*, 33(7), 671–678. <https://doi.org/10.1038/s41443-021-00441-8>

van der Loos, M. A., Hannema, S. E., Klink, D. T., den Heijer, M., & Wiepjes, C. M. (2022). Continuation of gender-affirming hormones in transgender people starting puberty suppression in adolescence: A cohort study in the Netherlands. *The Lancet Child & Adolescent Health*, 6(12), 869–875. [https://doi.org/10.1016/s2352-4642\(22\)00254-1](https://doi.org/10.1016/s2352-4642(22)00254-1)

van der Loos, M. A., Klink, D. T., Hannema, S. E., Bruinsma, S., Steensma, T. D., Kreukels, B. P., Cohen-Kettenis, P. T., de Vries, A. L., den Heijer, M., & Wiepjes, C. M. (2023). Children and adolescents in the amsterdam cohort of gender dysphoria: Trends in diagnostic- and treatment trajectories during the first 20 years of the Dutch Protocol. *The Journal of Sexual Medicine*, 20(3), 398–409. <https://doi.org/10.1093/jsxmed/qdac029>

van der Miesen, A. I. R., Steensma, T. D., de Vries, A. L. C., Bos, H., & Popma, A. (2020). Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care Compared With Cisgender

General Population Peers. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, 66(6), 699–704. <https://doi.org/10.1016/j.jadohealth.2019.12.018>

Vandenbussche, E. (2021). Detransition-related needs and support: A cross-sectional online survey. *Journal of Homosexuality*, 69(9), 1602–1620. <https://doi.org/10.1080/00918369.2021.1919479>

Vrouenraets, L. J., Fredriks, A. M., Hannema, S. E., Cohen-Kettenis, P. T., & de Vries, M. C. (2015). Early Medical Treatment of Children and Adolescents With Gender Dysphoria: An Empirical Ethical Study. *The Journal of adolescent health : official publication of the Society for Adolescent Medicine*, 57(4), 367–373. <https://doi.org/10.1016/j.jadohealth.2015.04.004>

Wallien, M. S., & Cohen-Kettenis, P. T. (2008). Psychosexual outcome of gender-dysphoric children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(12), 1413–1423. <https://doi.org/10.1097/CHI.0b013e31818956b9>

Warrier, V., Greenberg, D. M., Weir, E., Buckingham, C., Smith, P., Lai, M.-C., Allison, C., & Baron-Cohen, S. (2020). Elevated rates of autism, other neurodevelopmental and psychiatric diagnoses, and autistic traits in transgender and gender-diverse individuals. *Nature Communications*, 11(1). <https://doi.org/10.1038/s41467-020-17794-1>

Wiik, A., Lundberg, T. R., Rullman, E., Andersson, D. P., Holmberg, M., Mandić, M., Brismar, T. B., Dahlqvist Leinhard, O., Chanpen, S., Flanagan, J. N., Arver, S., & Gustafsson, T. (2019). Muscle strength, size, and composition following 12 months of gender-affirming treatment in transgender individuals. *The Journal of Clinical Endocrinology & Metabolism*, 105(3). <https://doi.org/10.1210/clinem/dgz247>

World Health Organization: WHO. (2022). *International Classification of Diseases Eleventh Revision (ICD-11)*. <https://icd.who.int/browse11/l-m/en>

World Health Organization: WHO. (2022b, June 8). *Mental disorders*. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>

World Professional Association for Transgender Health. (2012). *Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People* [7th Version]. <https://www.wpath.org/publications/soc>

Young Minds. (n.d.). *Guide to CAMHS: a guide for young people*. Young Minds. Retrieved April 2, 2024, from <https://www.youngminds.org.uk/young-person/your-guide-to-support/guide-to-camhs/>

Zucker, K. J. (1985). Cross-gender-identified children. *Gender Dysphoria*, 75–174. https://doi.org/10.1007/978-1-4684-4784-2_4

Appendix 1

Terms of reference

Terms of reference for the review of gender identity development services for children and adolescents

Introduction

1. NHS England is the responsible commissioner for specialised gender identity services for children and adolescents. The Gender Identity Development Service for children and adolescents is currently managed by the Tavistock and Portman NHS Foundation Trust.

2. In recent years there has been a significant increase in the number of referrals to the Gender Identity Development Service, and this has occurred at a time when the service has moved from a psychosocial and psychotherapeutic model to one that also prescribes medical interventions by way of hormone drugs. This has contributed to growing interest in how the NHS should most appropriately assess, diagnose and care for children and young people who present with gender incongruence and gender identity issues.

3. It is in this context that NHS England and NHS Improvement's Quality and Innovation Committee has asked Dr Hilary Cass to chair an independent review, and to make recommendations on how to improve services for children and young people experiencing issues with their gender identity or gender incongruence, and ensure that the best model/s for safe and effective services are commissioned. .

Review Scope

The independent review, led by Dr Cass, will be wide ranging in scope and will conduct extensive engagement with all interested stakeholders. The review is expected to set out findings and make recommendations in relation to:

- i. Pathways of care into local services, including clinical management approaches for individuals with less complex expressions of gender incongruence who do not need specialist gender identity services;
- ii. Pathways of care into specialist gender identity services, including referral criteria into a specialist gender identity service; and referral criteria into other appropriate specialist services;
- iii. Clinical models and clinical management approaches at each point of the specialised pathway of care from assessment to discharge, including a description of objectives, expected benefits and expected outcomes for each clinical intervention in the pathway;
- iv. Best clinical approach for individuals with other complex presentations;
- v. The use of gonadotropin-releasing hormone analogues and gender affirming drugs, supported by a review of the available evidence by the National Institute for Health and Care Excellence; any treatment recommendations will include a description of treatment objectives, expected benefits and expected outcomes, and potential risks, harms and effects to the individual;
- vi. Ongoing clinical audit, long term follow-up, data reporting and future research priorities;

- vii. Current and future workforce requirements;
- viii. Exploration of the reasons for the increase in referrals and why the increase has disproportionately been of natal females, and the implications of these matters; and,
- ix. Any other relevant matters that arise during the course of the review.

4. In addition, and with support from the Royal College of Paediatrics and Child Health and other relevant professional associations, the Chair will review current clinical practice concerning individuals referred to the specialist endocrine service. It is expected that findings and any recommendations on this aspect of the review will be reported early in 2021 with the review's wider findings and recommendations delivered later in 2021.

5. The review will not immediately consider issues around informed consent as these are the subject of an ongoing judicial review. However, any implications that might arise from the legal ruling could be considered by the review if appropriate or necessary.

This page is intentionally left blank

Appendix 2



The epidemiology, care pathways, outcomes, and experiences of children and adolescents experiencing gender dysphoria/incongruence: a series of linked systematic reviews and an international survey

The epidemiology, care pathways, outcomes, and experiences of children and adolescents experiencing gender dysphoria/incongruence: a series of linked systematic reviews and an international survey

Introduction

Increasing numbers of children and adolescents experiencing gender dysphoria or incongruence are being referred for care at specialist paediatric gender services. There are several clinical guidelines to support the clinical care of children and adolescents experiencing gender dysphoria or incongruence and their families, however, there are divergent clinical approaches to the management of these children and adolescents. Several countries have or are modifying referral and care pathways and provision in response to increasing numbers of referrals, changing demographics and ongoing uncertainty about the benefits, risks, and long-term effects of medical interventions for these children.

Overall aim: To systematically identify, collate and synthesise the existing evidence on the epidemiology, care pathways, outcomes and experiences for children and adolescents with gender dysphoria/incongruence.

We answered the following questions in the linked series of systematic reviews:

- What are the number of referrals and the characteristics of children and/or adolescents referred to specialist gender identity or endocrinology services that provide healthcare for those experiencing gender dysphoria/incongruence, and have these changed over time?
- What are the range of care pathways for children and/or adolescents referred to specialist paediatric gender or endocrinology services?
- What is the impact of social transition in relation to gender for children and/or adolescents?
- What is the effectiveness of psychosocial support interventions for children and/or adolescents experiencing gender dysphoria/incongruence?
- What is the gender-related, psychosocial, physiological, or cognitive outcomes of puberty suppression in adolescents experiencing gender dysphoria/incongruence?
- What is the gender-related, psychosocial, physiological, or cognitive outcomes of feminising/masculinising hormones in adolescents experiencing gender dysphoria/incongruence?
- What does published guidance on recommendations regarding the care of children and adolescents experiencing gender dysphoria/incongruence include, how were they developed and what is the quality?

The aim for the international survey was to understand the current provision of gender services for children and adolescents across the EU-15+ countries which have comparable high-income healthcare systems, to inform service development in the UK.

Systematic Review Methods

The protocol was registered on PROSPERO (CRD42021289659).

Search strategy

A single search strategy was used to identify studies comprising two combined concepts: 'children', which included all terms for children and adolescents; and 'gender dysphoria', which included associated terms such as gender incongruence and gender-related distress, and gender identity terms including transgender, gender diverse and non-binary. MEDLINE, EMBASE and PsycINFO through OVID, CINAHL Complete through EBSCO, and Web of Science (Social Science Citation Index) were searched (May 2021 updated in April 2022). Reference lists of included studies and relevant systematic reviews were also checked.

Overarching inclusion and exclusion criteria

Each individual review had its own inclusion and exclusion criteria, but studies were first screened against the following broad criteria:

Inclusion Criteria:

- Studies including children <18 years with gender incongruence, gender dysphoria / gender-related distress or referral to a paediatric or adolescent gender identity service.
- Primary studies (including those that involve secondary analysis of previously collected data) of any design, including experimental studies, observational studies, surveys, consensus studies and qualitative studies.

Exclusion Criteria:

- Studies about gender incongruence or gender dysphoria in adulthood.
- Studies of mixed populations unless the results for those with childhood gender incongruence, gender-related distress/dysphoria or those referred to a gender identity service in childhood are presented separately.
- Studies about individuals with differences in sex development (DSD)/ variations in sex characteristics (VSC).
- Single case studies, case series, editorials, or opinion pieces.
- Student dissertations.
- Systematic reviews or other literature reviews.
- Studies reported in conference abstracts.
- Studies not reported in English language.

Selection process

Search results were uploaded to Covidence and screened independently by two reviewers. Full texts for potentially relevant articles were retrieved and reviewed against the inclusion criteria for each review by two reviewers independently. Disagreements were resolved through discussion and involvement of a third reviewer where required.

Risk of Bias (quality) assessment

Where appropriate, the quality of studies included in the individual reviews were appraised using the most appropriate method. The tools used included the Mixed Methods Appraisal Tool (MMAT), modified versions of the Newcastle Ottawa Scale, and the Appraisal of Guidelines for Research and Evaluation (AGREE) II instrument. Two researchers rated the studies independently with discussion

to reach consensus. Study quality was not formally assessed in the systematic review that examined the characteristics of children and adolescents referred to paediatric gender services or in the review that examined their care pathways.

Data synthesis

A narrative approach to syntheses was used across reviews. The syntheses were performed by one reviewer and second-checked by another. Depending upon the specific review, proportions were combined in a random-effects meta-analysis using metaprop (Stata v18) with variances stabilised using the Freeman-Tukey double arcsine transformation. Graphs were used to display data visually where appropriate.

International Survey Methods

This was an e-survey of gender services for children and adolescents in the EU15+ countries which was open between September 2022 and April 2023. Contact details for the services were obtained from publicly available data, expert contacts and via snowball sampling. An email was sent to identified clinicians or managers, explaining the survey aims, confidentiality and data protection, and expected completion time. One reminder email was sent after three weeks. The survey contained 34 questions on service structure, care pathways, interventions, and data collection and an additional four questions on staffing and waiting lists. The questions were informed by a review of published papers describing service provision and the content of clinical guidelines. All responses were downloaded into Excel, descriptively analysed, and compared to assess similarity and variation among the services.

Results

Our searches yielded 28,147 records, 3,181 of which were identified as potentially relevant for the linked series of systematic reviews. Across all the reviews, 237 papers (214 studies and 23 guidelines/position statements) including 113,269 children and/or adolescents from 18 countries were reviewed (Figure 1). Included studies were published between 1978 and 2022, with 162 (68%) published from 2017 to the end date of the search in 2022.

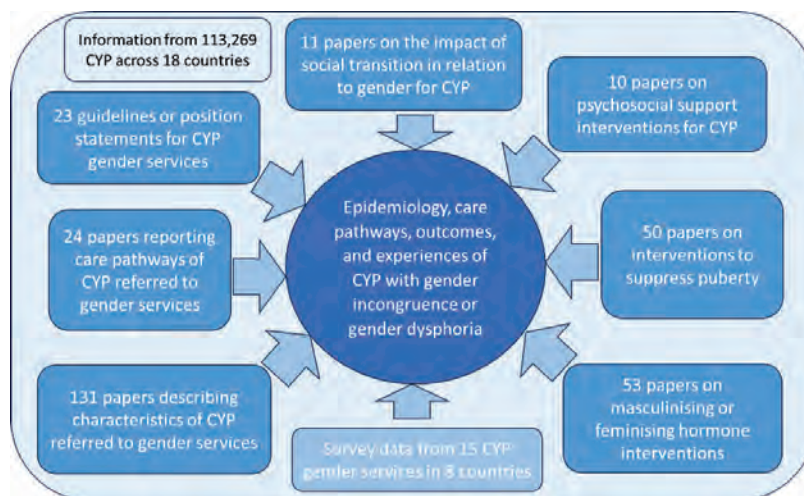


Figure 1: Overview of studies included in the individual reviews.

Overview of the findings

There has been a two to three-fold increase in the number of referrals and an increase in the ratio of birth-registered females to males being referred to specialist paediatric gender services over time across countries. Very few studies report data on gender status (self-reported gender identity, gender dysphoria, age at onset, and social transition) but from the limited data reported, over 60% of those referred were described as having taken steps towards a social transition. The evidence base for outcomes (benefits or harms) of social transition in childhood and adolescence is both limited and of low quality.

Data published to date suggests that presence of mental health challenges such as depression, anxiety, suicidality, self-harm, and eating disorders may be higher in children and adolescents referred to gender services than population estimates. There is limited data reported for other co-occurring mental health conditions. Presence of autism spectrum condition (ASC) and attention deficit hyperactivity disorder (ADHD) may be higher in those referred to gender services than population estimates. It was not possible to make inferences about changes over time for the characteristics explored due to overlapping samples and data being reported over large time-periods in individual studies.

There is very little information about detail or type of psychological care received by children and/or adolescents under the care of a specialist gender service, and there is limited low quality evidence on the outcomes of psychosocial interventions for children and adolescents with gender dysphoria or incongruence. Most analyses of mental health, psychological and/or psychosocial outcomes showed either benefit or no change, with none indicating negative or adverse effects. Only three studies assessed interventions that were specifically designed for children and/or adolescents experiencing gender incongruence, but these interventions varied considerably in content and delivery.

Data published to date suggests that approximately two-thirds of adolescents referred to specialist gender services receive puberty suppression or hormones, although rates for each vary considerably across clinics. There is also variation in the rates of those receiving puberty suppression prior to

starting hormones compared to those receiving hormones alone. There is very little information about children/adolescents who do not complete the assessment process within a specialist gender clinic or who do not receive medical intervention. Studies consistently report small proportions of adolescents who discontinue medical treatment; however, systematic reporting and reasons for discontinuation are rarely provided and follow up periods are limited.

There were no high-quality studies identified that used an appropriate study design to assess the outcomes of puberty suppression in adolescents experiencing gender dysphoria or incongruence. There is insufficient and/or inconsistent evidence about the effects of puberty suppression on gender dysphoria, mental and psychosocial health, cognitive development, cardio-metabolic risk, and fertility. There is consistent moderate-quality evidence, albeit from mainly pre-post studies, that bone density and height may be compromised during treatment.

There is a lack of high-quality research assessing the outcomes of hormones for masculinisation or feminisation in adolescents with gender dysphoria or incongruence and few studies that undertake long-term follow-up. There is little evidence regarding gender dysphoria, body satisfaction, psychosocial and cognitive outcomes, and fertility. There is moderate-quality evidence from mainly pre-post studies that hormone treatment may in the short-term improve some aspects of psychological health. There is inconsistent evidence about the effect of hormones on height/growth, bone health and cardiometabolic effects.

Twenty-three guidelines or position statements were identified that contain recommendations about the management of children and/or adolescents with gender dysphoria or incongruence. Few guidelines are informed by a systematic review of empirical evidence and there is a lack of transparency about how recommendations were developed. Only two of them consulted directly with children and/or adolescents during their development. Most national and regional guidelines have been influenced by the World Professional Association for Transgender Health and Endocrine Society guidelines which themselves lack developmental rigour and are linked through co-sponsorship. There is consensus across guidelines that those requiring specialist gender care should receive a multi-disciplinary assessment, although there is a lack of clarity about who should be involved in this and any differences in assessment for children and adolescents. Similarly, there is consensus that children and adolescents should be offered psychosocial support, but there is limited guidance about the process or approach for this and different recommendations about whether specialist gender clinics or mental health services should provide this. There are differing recommendations about when and on what basis psychological and hormone interventions should be offered, and limited guidance about pre-pubertal children or those with a non-binary gender identity.

The international survey found similar results with areas of common practice across gender services for children and adolescents in eight countries, with most using DSM-V diagnostic criteria and a multidisciplinary team approach. The survey revealed key differences in the composition of teams, the management of co-occurring conditions, pre-pubertal children, and those with a non-binary gender identity, and in the criteria for accessing medical interventions. Referral pathways into gender services for children and adolescents varied, and services reported limited provision of psychological care and a reliance on local mental health services. The survey found a lack of routine

outcome data collection among clinics, and this was evident from the studies included across the systematic reviews.

How the results might affect research, policy, or practice

Services need to respond to the potentially co-occurring complexities of children and adolescents being referred into specialist gender and endocrine services. Information about provision of psychological care and consideration of how this should be delivered is urgently needed considering the higher prevalence of mental health and psychosocial difficulties in this population. Detailed guidance to support psychological care of children and adolescents experiencing gender incongruence/dysphoria, or gender diverse children with psychosocial or mental health difficulties is needed. A better understanding of the care needs and provision for children and adolescents who enter assessment in a gender service but do not go on to receive medical interventions is needed to inform service provision. Prospective studies that follow-up children into adulthood and report information about the range of pathways followed are needed to understand longer term outcomes for those referred to specialist paediatric gender services. There is a lack of evidence and guidelines for those children and/or adolescents identifying as non-binary.

Healthcare services and professionals should take into account the variable quality of published guidelines to support the management of children and young people experiencing gender dysphoria or incongruence. The lack of independence in many national and regional guidelines, and the limited evidence-based underpinning current guidelines, should be considered when utilising these for practice. Practice base guidelines should reflect the limited evidence of the outcome of social transition for children and adolescents. Services and professionals should communicate the limitations of the evidence base surrounding social transition to children and adolescents experiencing gender dysphoria or incongruence and parents/carers.

There is a lack of high-quality evidence to support recommendations for puberty suppression or hormones for masculinisation or feminisation in children/adolescents experiencing gender dysphoria or incongruence. There is a lack of evidence comparing outcomes of adolescents who receive puberty suppression followed by hormones for masculinisation or feminisation to those who receive hormones only. Future guidelines should report the methods of development in full, with greater transparency about the links between evidence and recommendations and how recommendations are made in the absence of evidence.

Robust research is needed to address the significant gaps in our understanding of the potential short- and long-term outcomes of social transition, the risks, and benefits of puberty suppression and hormone interventions, and the appropriateness and effectiveness of different psychosocial interventions. Identification and agreement of core outcomes would help to ensure that what is important to relevant stakeholders is being collected and this would support future aggregation of evidence. High-quality studies using an appropriate study design are needed as is robust reporting. High quality standardised data collection should be routinely undertaken in gender clinics to enable comparison in outcomes for children and adolescents accessing different services.

Strengths and limitations

Strengths include a published protocol with robust search strategies and comprehensive synthesis. A limitation is that the database searches were conducted up until April 2022 and as this is a rapidly evolving area more recent publications would not have been included in the syntheses. We attempted to draw the findings of papers published after April 2022 into the discussion of each review, however as a comprehensive search of this literature was not undertaken more recent publications may have been missed. Due to available resources, only studies published in English were included. The primary research included in the reviews were generally of low quality and there was often inadequate reporting of key information required for the reviews which limited the analyses and conclusions that could be reached. All data relevant to review questions presented within the studies were extracted, summarised, and synthesised.

Caution should be taken when interpreting any of the pooled estimates as they represent data for a wide period of time, reported data were averaged over a large number of years, studies included often overlapping samples from the same clinic, and there were often discrepancies in the individual studies between the referred numbers and those included in the summaries of characteristics, and inadequate and/or unclear reporting of follow-up. Additionally, different tools or instruments were used to measure outcomes which increased heterogeneity. Reliance on publicly available information and known experts may mean some clinics were not identified and contacted to take part in the international survey. The low response rate within the survey means that certain countries are not represented and other potential differences in gender services are still unknown.

Journal publications

There are nine journal articles published in the Archives of Disease in Childhood associated with this overarching summary:

- Impact of social transition in relation to gender for children and adolescents: a systematic review.
- Gender services for children and adolescents across the EU-15+ countries: an online survey.
- Psychosocial support interventions for children and adolescents experiencing gender dysphoria or incongruence: a systematic review.
- Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of guideline quality (part 1).
- Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of recommendations (part 2).
- Interventions to suppress puberty in adolescents experiencing gender dysphoria or incongruence: a systematic review.
- Masculinising and feminising hormone interventions for adolescents experiencing gender dysphoria or incongruence: a systematic review.
- Characteristics of children and adolescents referred to specialist gender services: a systematic review.
- Care pathways of children and adolescents referred to specialist gender services: a systematic review.



Appendix 3

Qualitative Research Summary

Narrative accounts of gender questioning





Introduction

In 2020 NHS England appointed Dr Hilary Cass to review [gender identity services for children and young people in England](#). Dr Cass - through NHS England - commissioned independent qualitative research from the University of York to understand:

- children and young people's experiences of gender dysphoria, and the support they found helpful;
- parents' experiences of supporting their child;
- families' experiences of accessing services, including how they make decisions about care;
- experiences of young adults who questioned their gender when younger; and
- the experiences of care professionals who support children and young people, referred to the Gender Identity Development Service (GIDS).

We spoke to young people, aged between 12 and 18 years old (n=14), who sought support from the specialist NHS gender services in England. We also talked to parents (n=12), young adults aged between 19 and 30 years old (n=18) and care professionals (n=23). The research, conducted between March 2022 and August 2023, received NHS ethical approval (IRAS Project Id: 306023). The [research protocol](#) is available on the Cass Review website. This short summary introduces what our participants told us. We are currently preparing peer review publications on the basis of further, in-depth analysis. Thank you to everyone, who generously shared their experiences with us.

Doing the research

There is a human imperative to tell our stories and we wished to make use of this, especially as gender identity is a sensitive (and contested) topic, in which public debate can be unsympathetic to diverse experiences. We used narrative interviews, to hear participants' voices and engage with their biographical experiences. We explored how they defined, articulated and negotiated their gender, within the context of social networks.

To ensure we captured diversity, our sampling strategy used different ways of recruiting participants. We recruited 12 young people via the Gender Identity Development Service (GIDS) and two through voluntary organisations. We asked these young people for consent, before inviting their parents to take part. We also recruited three parents,



not related to the young people we spoke to, through private practice and voluntary organisations. Our sample of parents included seven mothers and five fathers.

When recruiting young adults, we contacted six community and voluntary organisations who, in addition to engaging with valuable discussions about the research, circulated invitations to take part in it. We also recruited young adults through an Adult Gender Identity Clinic and interviewed a small number, who had contacted the Cass Review team, asking to take part in the research.

Most care professionals interviewed worked at GIDS. They represented all regional teams; had a variety of different backgrounds (i.e., clinical psychologists, psychological and family therapists, social workers and specialist nurses); varied in the time spent working in the service; and included those with managerial responsibilities. In addition, we interviewed a youth worker and a therapist working in private practice.

When inviting participants to take part in our research, we made no assumptions about how they identify. Our sample of young people included nine young people registered female at birth and five registered as male. Four had begun a medical pathway. Three young people were neurodiverse. Most young people described themselves as trans, although one described themselves as non-binary and several continued to explore labels. Our sample of young adults included eight trans men and four trans women. Four young adults identified as non-binary or gender queer, or for whom labels were not important. Two participants identified as detransitioners. Five young adults were neurodiverse. Three belonged to an ethnic minority.

During our interviews we covered similar topics, to ensure we could compare responses, while creating an environment that enabled participants to reflect on their specific experiences. Topics were developed from relevant literature and through discussions with young gender diverse people as part of our Patient and Public Involvement (PPI) work. These young people also commented on the make-up of the sample and the focus of the study.

Interviews, held online using video conferencing software, lasted between sixty and ninety minutes. With consent, we audio recorded interviews and transcribed them verbatim. We interviewed most participants once but adjusted our approach to support their needs. Those with autistic spectrum conditions, for example, were able to meet with a researcher for shorter periods over several interviews.



Analysis explored the ways in which participants negotiated meaning, within normative expressions of gender identity. This generated narrative themes that enabled us to relate personal and cultural stories to their social context. These themes were then interrogated to highlight similarities and differences among participants.

Doing research on gender identity generates challenges. Some people, for example, expressed a reluctance to take part in research, because of what they regarded as hostile public discussions. We are sorry to miss their voices but understand their concerns. Our voluntary sector colleagues spoke of research fatigue, while the use of GIDS' clinicians to generate our sample of young people may have meant the research did not capture more complex cases. Despite this, our research represents a diverse range of experiences, pathways and outcomes, which provide valuable insights for those planning services.

What we found

Young people

Many young people described an initial sense of difference, which was difficult to explain. They did not fit in and gender norms confused them. Social interactions became fraught with uncertainty and anxiety:

"I had people telling me constantly, like, why are you acting like this, you're a girl not a boy. Like, I would just be thinking to myself like why are people trying to make me a girl when I'm genuinely not a girl? So yes, that was probably the most confusing time of my life".

Young people explained that they were sometimes made to feel like "freaks" or "outcasts". Many described experiences of bullying. The negative reactions of others caused distress.

They - and their families - initially sought support from primary care and mental health services. Discussing gender in these settings was not always positive. Young people and their parents described a lack of knowledge and understanding. Some also spoke of not being taken seriously:

"At first, [with a GP] it was not good. He literally had no idea what we were talking about, which was frustrating."

Young people wanted support to help manage potential distress and explore what gender questioning meant for them and their body. Most young people, however,



experienced a long wait before accessing NHS gender services (around three years). Waiting times impact on young people and their families, and the work specialist services provide. Care professionals believe waiting lists represent the biggest challenge facing service delivery. Young people and their parents agree. Families describe the difficulties of understanding gender questioning and managing distress, without formal support. Young people (and their parents) wished professional support was available during the initial stages of gender questioning:

"Hearing nothing [...] was definitely a struggle [...] So maybe like in those waiting times [services should] try providing a bit of support, whether it's just even online or something because you're kind of completely left in the dark and that's quite scary."

Accessing reliable information, a young person could trust and find useful proved challenging for many. While some did find online content helpful, it was described by many as a "minefield". Many expressed a need for balanced and informative online material.

Young people said the lack of support, when waiting, affected their mental health and well-being. They spent the time reflecting and researching. They also took steps to help manage how they felt and most socially transitioned while waiting. The process, although dynamic and flexible, was positively regarded by young people. Many parents, although initially hesitant, come to understand the value of social transitioning. A few, however, remained anxious about its impact. Families would have welcomed advice on how to negotiate social transitioning but many experienced difficulties in accessing support.

Several young people, while waiting, become aware of the ways in which medical pathways could help them. Waiting, they said, provided them with plenty of opportunity to understand how they felt. Many were confident about the next steps, when first accessing NHS gender services. Some young people regard their parents as more cautious. This could be a cause of tension.

Many of the young people we spoke to, however, had not accessed medical pathways. Most were in various stages of assessment, while others were waiting for referral to adult services. The few who had accessed medical pathways described them as having a positive impact.



Young people expressed a range of thoughts and feelings about beginning sessions at GIDS. When accessing specialist services, they learn that “a lot of talking” must be done:

“At first, it [talking] didn’t feel helpful. I didn’t really know why [...] because they can’t really give you a quick-fix [...] I feel like when you’re a kid, you just want everything to be fixed, and my mum is the same [...] so, that was frustrating, but I’ve, kind of, come to terms with the fact that it’s a slow, kind of, like, therapy process, and it’s not all about just medication and stuff like that.”

Young people respond in different ways, although their hopes remain consistent. They want to feel better about themselves. Some young people looked forward to talking with someone who understood them. Some, however, felt uncomfortable and initially found it difficult to talk about how they felt. Others expressed frustration, disappointment and at times, anger. They believed talking slowed down or prevented access to medical pathways. These young people believed their life was “on hold” and described how they felt unable to plan for the future. Waiting had created a sense of urgency:

“I expected to do the talking first but I didn’t think it’d take long [...] [that] they’d want to get me on puberty blockers as soon as possible [...] it was just really frustrating because obviously there was nothing I could do about it. Like, it’s my body but I have no control over it.”

Irrespective of expectations (and any initial frustration or hostility), many young people come to appreciate the opportunity to talk with specialist clinicians. Young people felt listened to and believed. Relationships with clinicians, although not without tension, come to be highly valued. Young people described having access to a relaxed, comfortable and non-threatening, safe space in which they could explore how they feel, as empowering:

“They give you a safe place to talk as personal as you want and it doesn’t go anywhere, you can trust them, and you feel validated and like what you’re saying really matters.”

Young people remain sensitive to any questioning of who they are. They may, however, become open to talking, when exploring what their gender questioning means for them. Talking, for example, enables them to relieve distress, consider different options



and plan for the future. For young people, successful clinical relationships establish respect, build trust and encourage an openness, when exploring experiences. Young people believe they have a right to be flexible, as they search for an identity, with which they feel comfortable.

Parents

The parents we spoke to represent a diverse range of responses. They support their child in a variety of ways. Parents conduct their own research before seeking support and guidance. They value and prioritise different pathways. Each without doubt, and even when in discord with their child (or with services), acted in what they understood to be the best interests of their child. Maintaining supportive family relationships remained a priority for them. Young people, although mentioning parents' initial confusion and a lack of understanding, felt "lucky" to have such caring parents, even if they do not always agree with them.

Some parents, clear about the next steps, support their child by advocating for access to medical pathways. They express concerns that specialists services are not sufficiently "affirmative" and may act as an inappropriate gatekeeper to medical pathways:

"[They] felt like the gatekeeper to the endocrinology service [...], so we knew that we had to jump through that hoop [assessment] but in terms of therapeutic support, that's not to say that the therapists weren't skilled because I've got immense amount of respect for [name of clinician] but I think it was just, it's flawed, isn't it, it's an immensely flawed service."

Other parents enter specialist services feeling less certain about what should happen next. These parents wanted help supporting their child, which they hoped would include exploring different options and outcomes. They wanted reliable information and a comprehensive assessment process:

"I was quite relieved when the counselling with GIDS went on [for] a long time [...] because that just slowed it all down a bit. I think [name of child] wanted to rush, rush, rush, get the diagnosis, get his testosterone, get his top surgery done and then his life would be brilliant again [...]. Whereas [...] I wanted it to slow right down and take that time talking, for GIDS to make a proper assessment



and yes, and for me to be able to trust their assessment, [...] which I felt I did at the end of it."

Most parents remain cautious, but open-minded about medical pathways. A few, however, avoided or delayed a referral to GIDS because of worries about an "affirmative" approach, which they believed would rush or prioritise medical pathways.

Parents expressed continuing uncertainties and doubts about what was best for their child. They worry about getting it "wrong". They also worry about the extent services could understand their child and respond appropriately. Some parents explained that healthcare practitioners had raised safeguarding concerns. This included parents advocating for medical pathways and those who adopted a more cautious approach.

Many parents expressed anxieties about the future, including the extent their child would be accepted by a society they regarded as hostile to difference. The long-term consequences of medical interventions also concerned some parents. Parents want their child to be happy but are not always sure how best to achieve this.

Several parents express worries about the extent services can meet holistic needs. Some worry, for example, that mental health and neurodiversity would not be appropriately considered, when exploring their child's gender questioning and any associated distress. Parents of children with autistic spectrum conditions describe positive experiences of specialist support, especially when they help establish networks of support, although some remain unsure if clinicians had the skills or experience to understand and support their child.

Parents' narratives understandably focused on their child's needs. Irrespective of their expectations and hopes for their child, parents found care difficult to negotiate:

"I think that's part of the problem with this, because the system would like there to be a clear problem to solve and a clear route in which to solve it and I'm afraid it just isn't the case."

They also found caring emotionally challenging and there are times when they feel overwhelmed:

"I think [we] just need us to swallow our own discomfort and stuff about it, and sit with theirs [their child], and not judge, and not, not tell them how to be or what to do, to just, to standstill with it. And that's really hard for some people I think because it is mind blowing stuff if you let yourself dwell on it."



Some explained that their own mental and physical health had deteriorated because of their caring responsibilities. They rarely received support for this.

Healthcare professionals and clinicians

Clinicians said negotiating assessment (including making decisions about the readiness for medical pathways), while also providing therapeutic support is a defining feature of their role. It was a source of tension too. They explained that before making any assessment, they encouraged the young person to reflect on - and understand - what their gender questioning meant for them. Clinicians worry that current changes, which involve considerable documenting of decision making, reduce the time available for talking to young people and their families.

Clinicians said that increased waiting times meant some young people and their parents come with "fixed" ideas about what they need from specialist provision. This sometimes made it difficult to build positive relationships, at least initially. Working with families, who felt confident in their decision making and wished to move forward quickly, created particular challenges. Clinicians understood that some families regarded them as "gatekeepers" to medical pathways. They believe this can be unhelpful as it could undermine therapeutic intent. Clinicians spent time in initial appointments apologising for the long wait and setting expectations. This may require them to "unpick" what had gone on before. Some families did not like this and it undermined trust.

Clinicians found current clinical language unhelpful. Labels such as "affirmative" or "exploratory", they said, did not reflect the complex and thoughtful work they did. Clinicians felt it possible to "validate" a young person's experience, while seeking to "open up a curiosity" about what this may mean for them. In explaining this, some clinicians said their role was not to make decisions for - or change the mind of - a young person but rather to encourage self-reflection on what would help them to flourish:

"I think it is really [...] taking a holistic look at the young people that come through the door and a very person-centred approach. I wouldn't claim that any young person that comes through the door would need the same thing as the person who came to the door the hour previous. So really taking that person-centred approach. Looking at what they need to live well, I suppose that's what I see my job as, what does this person need to live well, to be happy, to flourish in the world."



Clinicians say they are “not invested in particular outcomes”, when supporting young people. Their role may include facilitating access to medical and/or social pathways, alongside considering other possible outcomes. Successful therapeutic relationships, they say, require carefully listening to what the young person is saying, although this does not preclude a “gentle” questioning of what is said. Clinicians said enabling a young person to articulate an outcome and/or pathway appropriate to their needs, remained their priority:

“I suppose I see the main purpose of the job as being to develop kind of trusting therapeutic relationships with young people and their families that enable young people to be able to feel safe to explore their experiences [...] thinking about how we can best support people, and that might include physical interventions, it might involve talking, it might involve both, but I think all of that can only really happen if clinicians kind of provide that really like safe listening space.”

Some clinicians highlighted the challenges of working with clinical uncertainty and an evidence base that was not as strong as they would have liked, although a few noted that this was not unique to their specialism. More experienced clinicians were better able to negotiate these challenges. Clinicians agreed that puberty blockers and cross sex hormones provide an important pathway, alongside therapeutic support. Ensuring their safe use was important, in addition to understanding their long-term consequences.

Clinicians remarked that there is no agreed fixed point of reference on which to judge the success of an intervention, let alone a societal consensus on the appropriate response to young people who are gender questioning and/or experiencing distress. Responding to changing social and cultural expectations, political interference and regulatory scrutiny, they said, made for a difficult working environment. Clinicians, however, commented on “respecting the anxiety” generated by their role. They agreed, it is a privilege to work with young people. Their work is challenging. They believe it should be. It was also hugely rewarding.

The value of dysphoria as a diagnostic category provides an example of the challenges clinicians face. For many young people - and young adults - dysphoria is a useful medical label, helping to legitimise and explain experience. It also helped justify asking for support. Young people believed it created – at least initially - a possible shared language, which others could understand. Over time, however, some expressed

ambivalence. They continued to understand the value of dysphoria, but thought it could also represent an unhelpful diagnosis, in which their social experience could only be regarded as authentic if a medical label were attached. Young adults are especially sensitive to this. Parents commented on how a diagnosis of dysphoria helped legitimate their child's experiences, while facilitating access to medical pathways. It also helped them make sense of what they were going through, by making it "real". Clinicians understand the importance of diagnosis, particularly when justifying decision making, but remained sensitive to over-medicalisation, especially when a person's dysphoria was socially located.

Young adults

The young adults we spoke to described similar experiences to young people, when managing their distress and like young people, they struggled to access appropriate support. Young adults also spoke of supportive family relationships, although these are not without tension. Several who had initially experienced their parents' questioning as unhelpful, came to recognise its value in enabling them to understand their feelings. A few young adults, however, described less positive relationships, which had deteriorated over time, with both immediate and extended family. This increased their risk of social isolation.

Young adults expressed an incredibly diverse range of experiences and pathways. Many benefitted from access to medical pathways which, they said, enabled them to lead the lives they wanted. Others explored equally empowering options, such as social transitioning and more fluid and non-binary expressions of gender. Some young adults, as they grew older, questioned binary approaches, although for others, gender binaries remain an important reference point. Like young people, young adults highlighted the importance of having access to balanced information that reflected a diverse range of experiences and pathways, from a trusted source, such as the NHS.

Young adults explained how the discovery of gender diversity - and the possibility of transition - generated self-understanding. This included knowledge about the diversity and richness of transition. For many, understanding and expressing their gender occurred gradually and evolved over time:

"But actually I've learnt that you grow into it and you start to understand yourself more and you begin to love yourself because of it."



Many young adults found transitioning liberating and a source of euphoria. These young adults are proud of their journeys, which they say, have brought them fulfilment, joy and happiness:

"I started going, oh so what does your euphoria actually want? What are the things that make you happy? And exploring my gender in that way has been just such a joy."

For some, initial gender questioning created a sense of urgency, much of which focused on accessing medical pathways. These young adults acknowledged that their original response was to "fix" the problem. This became less important to them as they grew older. Some explained that discovering different ways to express gender identity was one of the most important things they had learned. They wished this had been explained to them when younger but remain uncertain about the extent they would have listened to such advice.

Young adults believe opening up a space for - and acceptance of - a diversity of 'transition' that does not require them to prove they are "trans enough", is the basis for the successful exploration of gender identity. What young adults dislike is when others try to define - or make assumptions about - who they are. They also dislike the imposition of labels. Young adults are clear. Their gender questioning is not a lifestyle choice or preference. It is who they are.

Two young adults, however, experienced regret. Physical transition had initially helped them. They now felt it was a mistake. Looking back, they would have liked more therapeutic support when considering transition (which they had done outside the NHS). They also described a lack of support available to those who wish to detransition:

"I felt like it wasn't, you know, acceptable to go back. It wasn't a thing to go back, you know. It wasn't something that was talked about. It didn't feel like an option that they wanted to discuss or even mention [...] I want detransition to be something that can be openly talked about, and regret to be openly talked about."

Many young adults, when reflecting on their own experiences of transition, explain that while it can be difficult and uncomfortable, it is important for young people to take their time, ask for support when needed and make decisions that are right for them:

"Go slow, go calm, just don't rush it. Go at your own pace."

Care, they say, must be timely and validating. Young adults, however, spoke of the difficulties of accessing appropriate care at the time, when you realise you need it.

Young adults (and clinicians) emphasise that diversity should not be used to undermine trans and gender diverse people or the options available to them. Recognising diversity also requires providing access to support for people who may experience regret. Internalised and socially realised transphobia, homophobia and misogyny especially concerned young adults. Young adults feel endlessly judged and held accountable for their difference and believe this closes down discussion and makes it more difficult for a person to take the path that is right for them. Young adults believe a person's capacity to flourish is strongly influenced by the circumstances in which they live. Services should seek to understand and support this:

I would tell [services] to [...] make it more of a personalised process [that] is really important because not everybody, kind of, falls under this neat little umbrella [...] much like gender - it's not confined to little boxes - the service cannot be confined to little boxes because it will then exclude so many more people."

Young adults' experiences suggest that one outcome or pathway should not be prioritised over another. All, they believe, are equally valid. Services should offer opportunities to understand different pathways, consistent with the breadth of experience associated with gender questioning. This, they say, is the basis for the successful exploration of identity. Young adults highlight the need for services to sensitively support young people, reduce distress and help them live well. They recognise the value of open and honest discussions as long as it is done respectfully, in a trusting encounter, in which rapport has been established:

"It was very in-depth, about every aspect of my life [talking therapy]. In a way, it was good because I'd never really had the chance to talk [...] in-depth about what was going on and piece together why I was feeling the way that I was. Yes. It was difficult, at times, I suppose but I'm glad I had to go through it and I'm glad that they [clinicians] were thorough enough to make sure that transitioning was the right thing for me, at that time."

Concluding thoughts

The needs of those who question their gender identity are not that different from anyone seeking support from healthcare services. They require timely access to appropriate care, consistent with their preferences, in which they are able to make informed choices



about their future. This includes safe and effective treatments, alongside respectful therapeutic support, sensitive to the challenges they face.

Our participants' narratives present rich and varied experiences, although one consistent theme, emerging throughout their accounts, regarded the importance of individual and personalised care. Gender questioning requires an open-minded approach, in which no outcome is presumed or predetermined and where an individual is given space (and time) to reflect on - and understand - what questioning means for them and their bodies. There remains no agreed approach to medical or social transitioning among young people, their parents or young adults. This is perhaps not surprising, given the considerable diversity in how individuals make sense of - and express - their experiences. The range of possible outcomes is similarly diverse. Services are required to respond to this diversity, while respecting the voices of young people. This requires thoughtful and supportive discussions. Those we spoke express a range of hopes, priorities and expectations. This requires transparency when clinicians offer and negotiate support.

Accessing timely support, however, creates considerable challenges for young people, their families and young adults. Participants also reflected on the fraught and politicised nature of current debates. These impacted on their wellbeing and by closing down debate, made it more difficult to pursue options consistent with how they felt.

The possibility of diverse outcomes is refuted by some and not seen as helpful by others. Highlighting diversity, however, does not discredit or devalue those who wish to celebrate their transition and the euphoria it brings them. Nor should it exclude the voices of those who have doubts or regrets. We risk injustice if this diversity and multiplicity is not supported by service delivery. For young people and young adults, their priority is to establish a social context in which they can flourish and feel comfortable. Parents and clinicians share these aspirations. Social inclusion and positive relationships, free from discrimination and in which an individual is accepted, respected and valued, represent an important priority for those - and their families - who seek support from health and social care agencies

This page is intentionally left blank

Appendix 4



OVERVIEW OF STUDY DEVELOPMENT

Assessment, Management and Outcomes for
Children and Young People Referred to a National
Gender Identity Development Service

Assessment, Management and Outcomes for Children and Young People Referred to a National Gender Identity Development Service

Introduction

Some children and young people experience significant levels of gender related distress in their course of their development arising from a persistent mismatch between their gender identity and their registered sex at birth. The numbers of children and young people referred to the Tavistock and Portman's Gender Identity Development Service (GIDS) - the NHS funded service for young people with gender related distress in England and Wales - increased markedly during the 2010s, resulting in lengthy waiting times and uncertainty for young people and their families. There have also been significant changes in the characteristics of young people referred, including an increase in the number of birth registered females and an over representation of young people who have traits or a diagnosis of autistic spectrum conditions. There is therefore an urgent need to understand the characteristics, needs, management options and outcomes of this changing population.

The intention of this study was to use data collected within the NHS - including data from the Tavistock Gender Identity Development Service, hospital wards, outpatient clinics, emergency departments and adult gender identity clinics - to assess the intermediate and longer-term outcomes for children and young people referred to the GIDS service. It would have examined the changing features of these children (including age at referral, co-occurring diagnoses of autism and other mental health difficulties), assessed if some groups of children are more likely to follow a medical approach to managing their gender related distress, and explored patterns of longer-term outcomes including successful transition, detransition and mental health outcomes.

These data would have provided children and their families with vital information on the different options for managing gender related distress and provided evidence for clinicians and policy makers delivering services for these children and young people. Ultimately, the study was not carried out, as the cooperation of all adult gender identity clinics could not be secured.

Overall aim: To examine the changing epidemiology of gender related distress in children and young people, in addition to their appropriate social, clinical, psychological and medical management.

Objectives: 1) To describe the clinical and demographic characteristics of this population of children and their clinical management in the GIDS service; and 2) To assess the intermediate outcomes of this population of children using national healthcare data.

Methods

Patient and public involvement and stakeholder engagement

A series of six online consultation events were held from Feb to June 2022. These events were advertised via GIDS stakeholder groups, the Yellow Door young person's group, Stonewall, Trans Actual, Mermaids and Gendered Intelligence. Across the sessions we spoke to 22 individuals. This was a mix of trans and gender questioning adolescents and young adults (n=12) and the parents of children and young people (n=10) who have been seen, or were waiting to be seen, at GIDS. Two further sessions were held in Autumn 2022, with another 23 individuals attending. Further engagement was planned during the study, following initial data analyses.

A study specific opt out was planned, with patient and carer information produced in both written and animated form. This material would have been advertised via the Tavistock GIDS service, other support organisations, and the University of York websites for 3 months prior to data extraction, directing prospective study participants to contact the Tavistock or their adult clinic if they did not wish their data to be used in the study. Any existing national opt outs would also be upheld.

Research design, participants and sample size

- Retrospective secondary analysis of the Tavistock GIDS data and linked population level datasets available for children and young people referred to the GIDS service.
- All children, teenagers or young adults aged 18 years old or younger at the point of referral to GIDS, who were referred to GIDS between 2009 and 2020.
- A full population cohort (estimated 9,000 participants).

Data Sources

The primary data source is clinical data from the Tavistock GIDS service linked to:

1. Data from the paediatric endocrinology services at University College London Hospital and Leeds Teaching Hospitals Trust.
2. Data from the NHS Gender Identity Clinics for Adults in England:
 - The Tavistock and Portman NHS Foundation Trust, Gender Identity Clinic, London
 - Leeds Gender Identity Clinic, Leeds
 - Northampton Gender Identity Clinic, Daventry
 - Northern Region Gender Dysphoria Service, Newcastle
 - The Nottingham Centre for Transgender Health
 - Porterbrook Clinic Gender Identity Service, Sheffield
 - The Laurels Gender Identity Clinic, Exeter

3. Other healthcare data held by NHS Data and Analytics:

- Hospital Episodes Data – Accident and Emergency (pre 2019) and Emergency Care (from 2019) datasets
- Hospital Episodes Data – Admitted Patient Care
- Hospital Episodes Data – Outpatient
- Mental Health Minimum data set
- Community prescribing data
- Death Registration data

Data Extraction

Demographic data held at the Tavistock GIDS service would be extracted from electronic patient records. Additional clinical data would require manual extraction from paper and/or electronic records. For more recent referrals much of this information will be available on a summary assessment and discharge forms. A unique study ID (pseudonym) would be used to retain the link between the non-identifiable data collected and confidential patient data. The confidential patient data would be retained on the Tavistock system until required for transfer to NHS Data and Analytics for linkage with their datasets. Pseudonymised data would be securely transferred to the Department of Health Sciences server at the University of York.

For assessment of outcomes, confidential patient data required for linkage to other NHS datasets (date of birth, NHS Number, postcode and birth registered sex) would be extracted from electronic records held at the Tavistock clinic and the Adult GIC clinics. To reduce flows of confidential patient data, this would only include those aged up to age 30 years (the oldest young person referred to GIDS in 2009 would be 30 in 2020). All data linkages would be undertaken by NHS Data and Analytics. The University of York team would receive pseudonymised clinical data from the Tavistock, UCLH, NHS Digital and Adult GIC clinics and would be data controller for the study. For both objectives a successful application was made to the Confidentiality Advisory Group (under section 251 of the National Health Service Act 2006 and its current Regulations, the Health Service (Control of Patient Information) Regulations 2002). The NHS Act 2006 and the Regulations enable the common law duty of confidentiality to be temporarily lifted so that confidential patient information can be transferred to an applicant without the discloser being in breach of the common law duty of confidentiality.

Compliance with the Gender Recognition Act (GRA) is required for the second objective. Advice was therefore sought from the National Data Guardian and a request was made to the Secretary of State for Health to enact Section 22, Point 5 of the GRA as the legal basis for this study. A Statutory Instrument was laid by the Secretary of State for Health for the specific purposes of this study, coming into force on the 28th July 2022 for a duration of 5 years.

Data analysis

Objective 1

A population based retrospective cohort study would have been undertaken using data from electronic and paper records in the GIDS. The population would include all children and young people referred to the Tavistock GIDS resident in England referred from 2009 to 2020. These analyses would aim to:

- Describe the demographics of children referred to GIDS;
- Assess the treatment pathways, including endocrine treatment, of children in GIDS;
- Describe the referral sources of children referred to GIDS;
- Describe the destination of children after GIDS assessment.

The demographic profile of this cohort would be described using counts and percentages for categorical data (e.g., ethnic origin) and means and standard deviation for continuous data (e.g., age at referral). Demographic data would include whether children had begun puberty at the point of referral. Clinical activity data would include numbers of appointments and clinical assessments, source of referral and destination on discharge.

Treatment pathways are an important outcome for this population, so log-binomial or robust (modified) Poisson regression models would be used to assess clinical and demographic associations with likelihood of referral for endocrine treatment. Statistical models would use binary outcomes (referred or not referred to endocrine clinics) with independent variables selected from demographic data (ethnic group, deprivation group, birth sex) and other clinical data (e.g. co-occurring conditions such as autism) and puberty status at referral, based on model fit as assessed by Akaike's Information Criterion and the Bayesian Information Criterion.

Objective 2

Following data linkage, an assessment of data quality and completeness would be undertaken for key clinical and demographic variables. Key outcome data derived from the linked healthcare data would include: surgical and medical management of gender dysphoria; mental health diagnoses and treatment; and co-occurring diagnoses of autistic spectrum disorder. Destinations of young people referred to the Tavistock clinic would be described in terms of the proportion: accessing assessment and psychosocial support only; prescribed hormone blocking treatment only; prescribed hormone blocking treatment followed by cross sex hormone treatment; accessing sex reassignment surgery in adulthood; appearing to have de-transitioned; with a co-occurring mental health diagnosis; with a diagnosis of autistic spectrum disorder; self-harming. Appropriate statistical models would be used to assess whether any clinical or demographic features, including puberty status at referral, are associated with these outcomes.

Regulatory requirements, data protection and patient confidentiality

The ethical aspects of this study were reviewed and approved by a Research Ethics Committee of the Health Research Authority (REF 22/HRA/3277). The use of confidential patient data without consent was approved by the Confidentiality Advisory Group (CAG) of the Health Research Authority. CAG is an independent body which provides expert advice on the use of confidential patient information (REF 22/CAG/0129).

All investigators and research staff would comply with the requirements of The Data Protection Act 2018, the UK's implementation of the General Data Protection Regulation (GDPR), with regards to the collection, storage, processing, and disclosure of personal information. Data storage and handling would comply with data controllers, processors, and University of York policies, including locked storage, password protection, and encryption of the pseudonymised data. Data would be archived for 5 years following the end of the project. Data would be stored in the University of York in accordance with GDPR and the University of York guidelines. At the end of the default retention period (5 years) all data would be confidentially destroyed by a secure method.

Steering group

A Study Steering Committee was established with an independent chair and representation from topic experts and academics. This panel would meet three times per year to assess progress of the study against the defined milestones and deliverables and provide advice and expertise to the Study Management Team.

Stopping the study

Conduct of the study was contingent on gaining access to the relevant patient data and securing the full cooperation of the gender identity clinics. Following study approval by the Health Research Authority, the research team contacted clinical leads at GIDS and each of the Adult Gender Identity Clinics to establish collaborative links and confirm capacity and capability to support the study. Systematic steps were taken to clarify the aims and motivations of the research, understand and address any concerns of clinic staff, and to propose alternative approaches and solutions where appropriate. Negotiations took place between August and November 2023, after which six of the seven adult clinics declined to support the study. Common reasons given by the clinics for non-participation are summarised in **Table 1**. Clinics also rejected the option to conduct the initial data-linkage phase of the study only (i.e. to provide patient name, date of birth and NHS number but no other clinical data). The decision to stop the study was therefore taken on November 30, 2023.

Table 1: Adult gender identity clinics' reasons for non-participation in the data linkage study

Area of concern	Specific issue	University of York response
Accessing patient records	<ul style="list-style-type: none"> Paper records started to be replaced by electronic records in 2012, but were still in use in 2020. Identifying eligible patients and extracting data would therefore be labour intensive. Where available, electronic records may not contain all the required data, and searches of paper records may still be required. Only a minority of attendees at the adult clinics will have previously attended GIDS, potentially making them more difficult to identify. 	<ul style="list-style-type: none"> Support is in place to cover clinics' workload in relation to research studies, including extraction of clinical data (see resource provision). The study could be conducted in two phases, with the first phase only requiring clinics to provide patient name, date of birth and NHS number for the purposes of linkage. This would not require an extensive search of paper records. Clinics would not have to identify patients who previously attended GIDS themselves, as attendance would be established through the data linkage process conducted by NHS Data and Analytics.
Resource provision	<ul style="list-style-type: none"> Clinics lack resources and knowledge to answer patient queries in relation to the study. Some clinics felt obliged to contact all eligible patients directly to inform them of the study (see ethical considerations). Extracting clinical data from notes, even when performed by external researchers, would require supervision by a clinician with epidemiological research experience and local knowledge of the current and historical formatting and archiving of notes. 	<ul style="list-style-type: none"> Queries about the study would be referred to the dedicated study website, which includes infographics, patient information, opt-out arrangements, a full study protocol and a contact e-mail. Rigorous patient data safeguards are in place (see ethical considerations). Research support is available to clinics through the Clinical Research Network to cover costs associated with basic data extraction, and researchers employed by the University of York would carry out the most labour-intensive activities relating to detailed data extraction (retrieval of clinical activity data from patient notes). Negotiations between the clinics and the funder (NHS England) could identify additional research support funding to cover the cost of local supervision where appropriate, although it is acknowledged that long-standing workload and recruitment pressures present significant challenges to the provision of support for research in this area.
Data completeness and linkage	<ul style="list-style-type: none"> Changes to NHS numbers, postcodes and/or gender would make record linkage between GIDS and adult clinics extremely challenging. 	<ul style="list-style-type: none"> These are standard challenges for health services research in general and data linkage studies in particular. University of York researchers and analysts based at NHS Data and Analytics have extensive experience in conducting complex

	<ul style="list-style-type: none"> • Data missingness is likely to be not-at-random, particularly for people who de-transition/re-transition. • Changes in clinical protocols, differences in protocols between clinics and (mis)understanding of those protocols (e.g. whether hormone treatment is required prior to surgery) may confound the study when attempting to associate treatments with outcomes. • Neurodiversity is likely to effect outcomes but may not be well recorded in clinical records, leading to potential confounding. 	data linkage studies, addressing issues of missingness and dealing with confounding variables.
Study methodology	<ul style="list-style-type: none"> • The study outcomes focus on adverse health events, for which the clinics do not feel primarily responsible. • Detailed definitions for study variables were not provided in the protocol, including the conceptualisation and measurement of detransition. 	<ul style="list-style-type: none"> • The purpose of the study is not to audit quality of care but to assess patterns of outcomes in the population. Inevitably, this will include adverse outcomes as these are of concern to both patients and providers. • Detailed definitions would be developed in line with the literature and clinical guidelines, and in consultation with clinic staff.
Ethical considerations	<ul style="list-style-type: none"> • There was insufficient involvement of clinic staff and service users in study design and development. • People with additional vulnerabilities may be less likely to opt out or may need more support to opt out from the study. • Trust data responsibilities and governance of patient data requires clinics to actively seek consent from all service users before sharing any information, and therefore an opt out (rather than an opt in) was not appropriate. 	<ul style="list-style-type: none"> • The final protocol was developed in consultation with clinicians, service users and international experts in the field. The research team liaised with the adult clinics at the study development stage but there was a general reluctance on the part of the clinics to engage. • Public and patient engagement sessions were conducted in the early stages of protocol development, and participants were generally supportive of the study and the use of their data. Many expected their data to be routinely collated and analysed by the NHS and associated researchers as part of its quality improvement work. • The UK has a stringent series of safeguards covering the use of patient data in research (including Health Research Authority approval, anonymisation of patient data, and General Data Protection Regulations). Additional specific safeguards (including the Statutory Instrument, and the 3 month opt-out period) were put in place for this study. Additional support for vulnerable patients would be discussed with clinics and patient groups.

Concerns about funder motivation and political interference	<ul style="list-style-type: none"> • The unintended outcome of the study is likely to be a high-profile national report that will be misinterpreted, misrepresented or actively used to harm patients and disrupt the work of practitioners across the gender dysphoria pathway. • Taking part in a study of this kind could bring into question the integrity of clinic staff and the relationships they have with patients. • The study may not be fully independent, and may suffer from interference by NHS England, the Cass Review Team and Government ministers whose interests do not align with those of providers and users of gender identity services. 	<ul style="list-style-type: none"> • Given that there are no existing national level assessments of longer-term outcomes in this patient group, the potential for misinterpretation or misuse of study findings is insufficient reason for not conducting research in this area. • The research team is mindful of the context for the research, having previously conducted systematic reviews and qualitative interviews with service users, and in some cases having direct clinical experience of working with patients. Although it is not possible to control all public responses to published research, the research team would take all reasonable steps to avoid misinterpretation and to ensure study outputs carried clear messaging that reflected the sensitivities surrounding this issue. • Although the study is funded by NHS England, the research team is fully independent and not subject to interference by the Cass Review, NHS England or any other external agency. The research team is experienced in handling sensitive research topics and in publishing research which is critical of funding bodies and government policy.
---	---	---



This page is intentionally left blank

Appendix 5



PRELIMINARY REPORT

Epidemiology and Outcomes for Children and
Young People with Gender Dysphoria:
Retrospective Cohort Study Using Electronic
Primary Care Records

Epidemiology and Outcomes for Children and Young People with Gender Dysphoria: Retrospective Cohort Study Using Electronic Primary Care Records

Introduction

The number of children and young people referred to the Tavistock and Portman's Gender Identity Development Service (GIDS) - the NHS funded service for young people with gender related distress in England and Wales - rose markedly during the 2010s, resulting in lengthy waiting times and uncertainty for young people and their families. Additionally, there has been a marked increase in referrals of adolescent birth-registered females and an over-representation of children with autism or autism spectrum traits. Recent reviews by the National Institute for Health & Care Excellence (NICE) on the medical treatment of these children highlighted a lack of evidence of effectiveness and low quality of the published literature. There is also a lack of evidence on outcomes for these children and adolescents, and their presentation in primary care.

Overall aim: To use electronic primary care records to describe the epidemiology of gender dysphoria in people aged 18 and under in England from 2009 to 2021.

Objectives: To estimate for people aged 18 and under with gender dysphoria:

- Changes in incidence and prevalence over time.
- Prevalence of co-occurring autistic spectrum disorders.
- Frequency of primary care prescribing and duration of treatment with puberty blockers and hormones.
- Prevalence of obesity, smoking, self-harm and common mental health conditions compared with people with autism spectrum disorders, eating disorder and no long-term condition.

This preliminary analysis covers the first two objectives; subsequent reports will cover prescribing and co-occurrence of other conditions.

Study population: People aged 18 and under with gender dysphoria and age matched controls with autism and an eating disorder. The final study population consisted of:

- 3,782 people with gender dysphoria;
- 18,740 matched controls with autism spectrum disorder;
- 13,951 matched controls with eating disorder;
- 18,871 matched controls with no recorded long-term condition.

Methods

Data were derived from the Clinical Practice Research Datalink (CPRD), a database of anonymised patient data from general practices across the UK linked to other health-related data, including routine and emergency hospital attendance and Office for National Statistics mortality data. The database holds data for over 18 million currently registered patients. The study population was identified using primary care code lists (READ and SNOMED) covering clinical activities (including diagnosis, symptoms, treatment and referrals) and secondary care codes (Hospital Episode Statistics) indicative of relevant conditions. Co-existing conditions (for example, anxiety and depression) were identified using similar methods. Key covariates included age and local area deprivation (based on the Index of Multiple Deprivation for the postcode of residence). Patient inclusion criteria included:

at least one year of registration with a practice with research-standard data; primary care record linked to secondary care data; and postcode of residence available.

People with gender dysphoria were matched by age to three groups of controls: people with autism spectrum disorders; people with eating disorder; and people with no recorded long-term condition. We aimed to match cases to 5 controls with each condition, but due to low numbers an average of 3.7 controls with eating disorder were matched. Matching was performed on year of birth and index date for controls, on or before index date of cases (i.e. matches must have been diagnosed with the relevant condition before the case was diagnosed with gender dysphoria). Controls were not matched on recorded gender in part due to limitations in the categorization of gender within CPRD. The gender data category allows options of 'male', 'female' and 'other'; as people are first registered at birth if born in the UK, this category generally refers to registered sex, but can subsequently be changed at the patient's request to reflect their gender identity (see **strengths and limitations**). In this study, we use the category term recorded in the CPRD database.

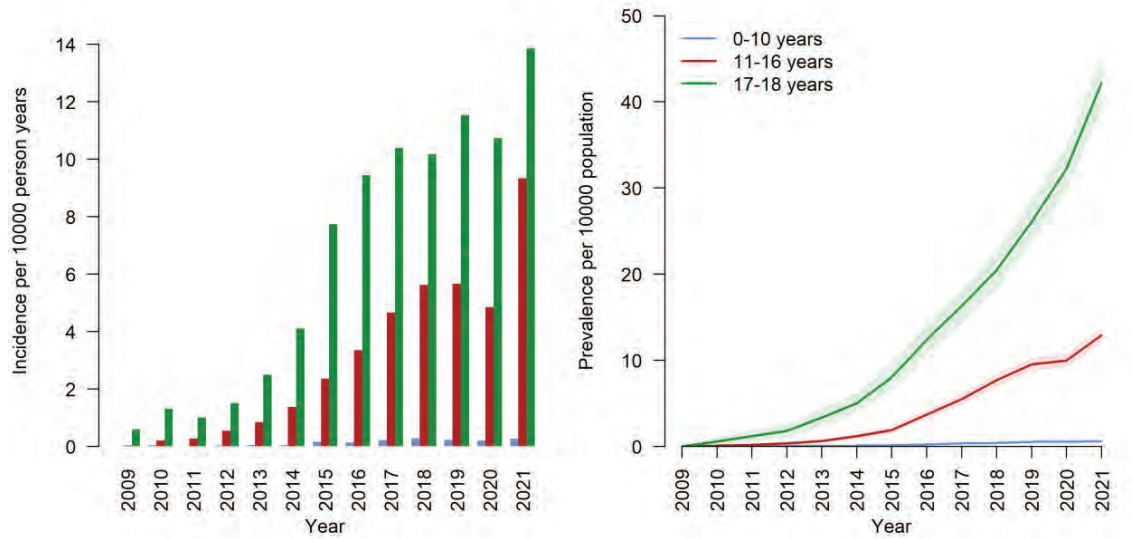
Incidence rates were calculated by dividing the number of new cases in a given year by the person-time at risk. Prevalence was calculated by counting the number of individuals in the dataset registered with practices on 1 July in each year with a diagnosis code recorded on or before that date. This number was divided by the total number of individuals in the dataset registered on 1 July and multiplied by 10,000 to give prevalence per 10,000 people. This method produces an upper limit estimate of recorded prevalence (see **strengths and limitations**). Prescribing data in CPRD were used to assess the proportion of cases and controls receiving relevant medications at each point in time. Comparative analyses of incidence of co-existing conditions and outcomes were calculated using incidence rate ratios, adjusting for common confounders (for example, age and local area deprivation).

To protect patient anonymity, published results are subject to small number suppression and no results for fewer than 10 people are reported. There were few missing data except for month of birth (year of birth was used to calculate age). No attempt was made to impute missing data for demographic information due to the low numbers of missing data (under 1% missing for the deprivation category; zero missing for gender) and the lack of relevant information on which to build an imputation model.

Results

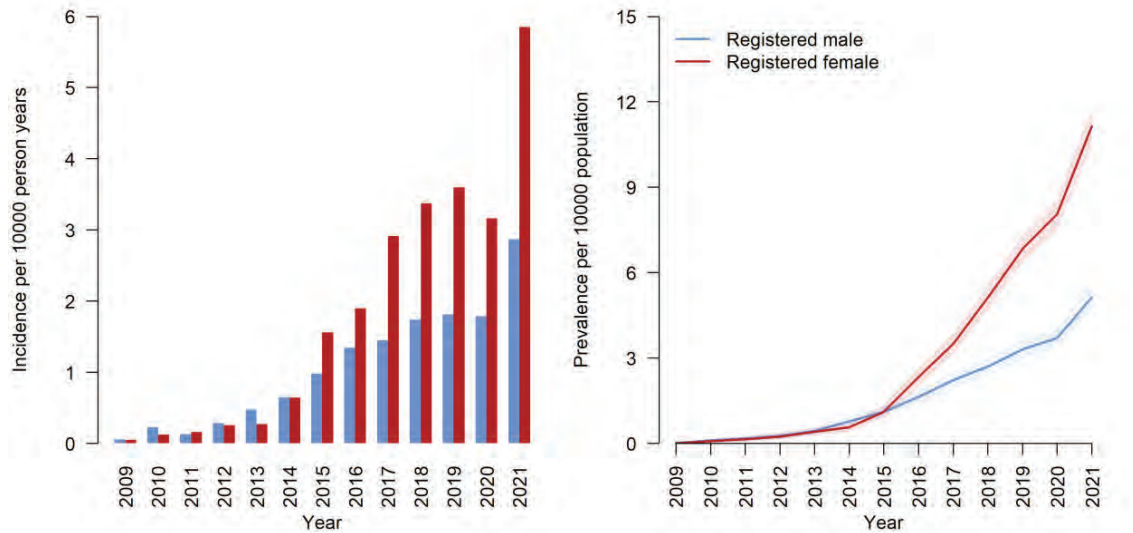
Recording of gender dysphoria was rare before the age of 10, increasing in frequency with each additional year up to age 16, the most common age at diagnosis. New cases for ages 18 and under increased from <0.1 per 10,000 person years in 2009 to 4.4 (95%CI 4.1-4.7) per 10,000 in 2021, with a decline in 2020, the first year of the COVID-19 pandemic (**Figure 1**). Overall recorded prevalence increased from <0.1 per 10,000 persons in 2009 to 8.3 (95%CI 7.9-8.7) per 10,000 in 2021, with the highest recorded prevalence in the 17-18 age group (42.2, 95%CI 39.1-45.2 per 10,000 in 2021). Incidence of new cases was similar for patients registered as male and female up to 2014, after which incidence increased at up to twice the rate for patients registered as female (**Figure 2**).

Figure 1: Incidence and recorded prevalence of gender dysphoria by age group



Note: shaded areas on prevalence graph denote 95% confidence intervals.

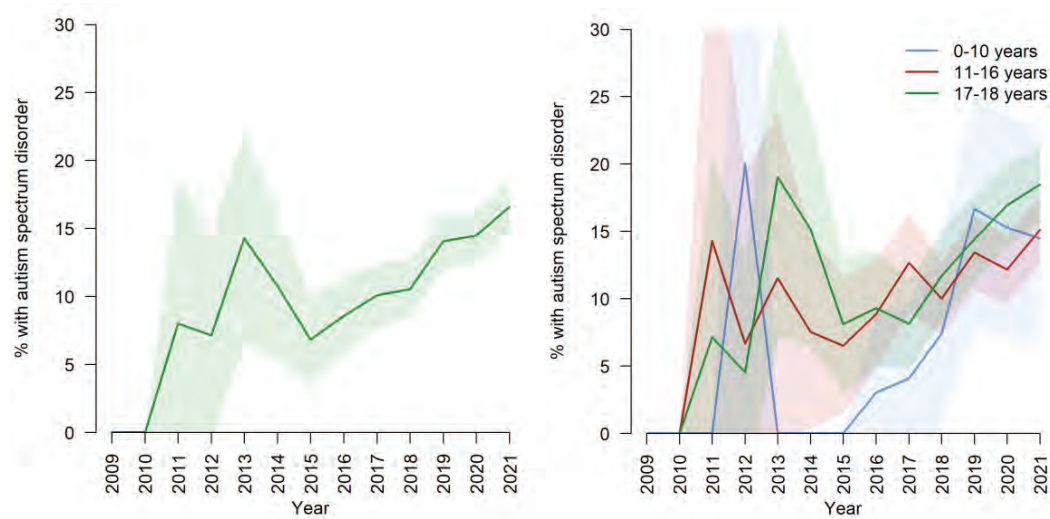
Figure 2: Incidence and recorded prevalence of gender dysphoria by registered gender



Note: shaded areas on prevalence graph denote 95% confidence intervals.

Patients can request to have their recorded gender changed on their clinical records without undergoing gender reassignment treatment, and CPRD reports the latest recorded gender only.

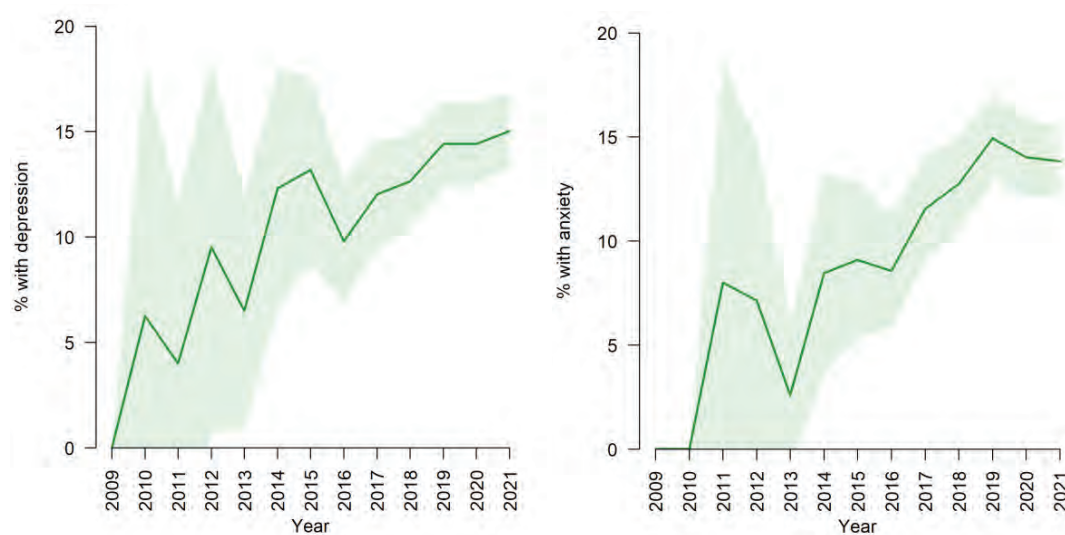
Figure 3: Co-occurrence of gender dysphoria and autism spectrum disorder, overall and by age group



Note: shaded areas denote 95% confidence intervals.

Due to low numbers of people with gender dysphoria, estimates of the prevalence of co-occurring conditions before 2014 are imprecise, as indicated by the wide confidence intervals.

Figure 4: Co-occurrence of depression, anxiety and gender dysphoria



Note: shaded areas denote 95% confidence intervals.

Due to low numbers of people with gender dysphoria, estimates of the prevalence of co-occurring conditions before 2014 are imprecise, as indicated by the wide confidence intervals.

In 2015, 6.8% (95%CI 3.5-10.1%) of people with gender dysphoria also had a diagnosis of autism spectrum disorder, increasing to 16.6% (95%CI 14.8-18.4%) by 2021. Trends in recorded prevalence did not vary substantially by age group (**Figure 3**). Recorded co-occurrence of depression and anxiety increased over time, reaching 15.0% (95%CI 13.3-16.8%) and 13.8% (95%CI 12.1-15.5%) respectively in 2021 (**Figure 4**).

Overview of the findings

In our sample of general practices, recorded prevalence of gender dysphoria in people aged 18 and under increased over a hundred-fold between 2009 and 2021. This increase occurred in two phases; a gradual increase between 2009 and 2014, followed by an acceleration from 2015 onwards. Increases in this second phase were more rapid for people registered as female, although clinical records do not indicate whether their recorded gender had been changed (see **strengths and limitations**).

Throughout the study period, presentations predominantly occurred in the teenage years, and over half of people with a recorded history of gender dysphoria were in the 17-18 age group. A substantial minority of people with a history of gender dysphoria also had a recorded diagnosis of autism spectrum disorder, and the proportion of people with such a diagnosis increased over time. Depression and anxiety were also more frequently reported over time, approaching 15% of people with gender dysphoria by 2021.

Strengths and limitations

These analyses draw on the complete primary care records of 3,782 children and young adults with a record of gender dysphoria derived from the Clinical Practice Research Datalink database, linked to other relevant health-related datasets. CPRD provides a large, comprehensive and nationally representative cohort covering all aspects of primary care and (through general practices' gatekeeping and care coordination role) secondary and tertiary care. The database facilitates investigation of rare exposures and events, such as gender dysphoria, and minimises selection and information bias as almost all residents in England are registered with a general practitioner soon after birth and practices collect data prospectively.

CPRD data also has several limitations, however, leading to risks of both under-reporting and over-reporting of gender dysphoria. Data are recorded by general practice staff for the purpose of clinical care and not primarily for research, hence key information may be inconsistently recorded, particularly for uncommon conditions such as gender dysphoria, with which individual practitioners may be less familiar. Practices may also not record that a long-term condition has resolved, hence our results report the proportion of people at a given point in time with a record of gender dysphoria *at any point* in their history. This will be higher than the proportion of people who currently have gender dysphoria. Conversely, for co-occurring conditions such as anxiety and depression, the analyses presented in this preliminary report are restricted to those with a recorded diagnosis, which may underestimate the number of people with symptoms of anxiety and depression, or receiving treatment.

Studies based on primary care records also face challenges with respect to classifying patient sex and gender, and this presents a particular problem for studies of gender dysphoria. Patients can request

to have their recorded gender category changed on their clinical records without undergoing gender reassignment treatment, and are then registered as a new patient with their previous medical information transferred to their new record. CPRD reports the latest recorded gender category only, so it is not possible to assess complete gender histories or to make definitive statements about patient sex. In our results, 'male' and 'female' refer to the gender recorded by the practice.



This page is intentionally left blank

Appendix 6



Dr Hilary Cass
Chair
Independent Review of Gender Identity
Services for Children and Young People

John Stewart
National Director
Specialised Commissioning
NHS England

Sent by email

19 July 2022

Dear John

**INDEPENDENT REVIEW OF GENDER IDENTITY SERVICES FOR CHILDREN
AND YOUNG PEOPLE – FURTHER ADVICE**

In my interim report I provided advice that in order to meet current demand and provide a more holistic and localised approach to care, gender identity services for children and young people need to move from a single national provider to a regional model.

I have since met with potential providers, Royal Colleges and support and advocacy groups to discuss the essential components of the proposed new model. I will continue with these conversations, including a programme of engagement with service users and their families, but wanted to share the outcome of discussions to date.

Essential components of a new model

A comprehensive patient and family centred service and package of care is needed to ensure children and young people who are questioning their gender identity or experiencing gender dysphoria get on the right pathway for them as an individual. A shared care arrangement is needed to enable children and young people to receive supportive care and appropriate treatment as close to home as possible. This would also improve integration between different children's services, facilitate appropriate access to local community support services, improve the experience of care, and support the transition between children's and adult services that are appropriate for the individual.

Regional centres

Regional centres should be commissioned as specialist centres to manage the caseload of children requiring support around their gender identity. The regional centres should be experienced providers of tertiary paediatric care to ensure a focus on child health and development, with strong links to mental health services. They should have established academic and education functions to ensure that ongoing research and training is embedded within the service delivery model. The centres should have an appropriate multi-professional workforce to enable them to manage the holistic needs of this population, as well as the ability to provide essential related services or be able to access such services through provider collaborations. These should include, but not be limited to: mental health services; services for children and young people with autism and other neurodiverse presentations; and for the subgroup for whom medical treatment may be considered appropriate, access to endocrinology services and fertility services. There should also be expertise in safeguarding, support of looked-after children and children who have experienced trauma. Staff should maintain a broad clinical perspective by working across related services within the tertiary centre and between tertiary and secondary centres in order to embed the care of children and young people with gender-related distress within a broader child and adolescent health context.

Designated local specialist services

The regional centres will need to work collaboratively with local services within their geography. However, recognising that not all local services will have the capacity, capability and/or aspiration to support the care of children and young people with gender-related distress, I would recommend initially identifying a smaller number of secondary services within Child and Adolescent Mental Health Services (CAMHS) and paediatrics to act as **designated local specialist services** within each area. This would give the opportunity to provide targeted training, upskilling and additional staffing to a more manageable number of centres within a geography. Similar models exist in the provision of children's cancer services where there are designated Paediatric Oncology Shared Care Units (POSCUs)¹ and in neonatal care where there are designated Local Neonatal Units (LNUs).²

Operational delivery network

The regional centres should be responsible for overseeing the shared care model, working through an **operational delivery network (ODN)** or similar mechanism that can fulfil the stated purposes of ODNs³ which include:

- ensuring effective clinical flows through the provider system through clinical collaboration for networked provision of services
- taking a whole system, collaborative provision approach to ensure the delivery of safe and effective services across the patient pathway

¹ [NHS England \(2021\). Service Specification: Children's Cancer Network - Principal Treatment Centres](#)

² [NHS England. Service Specification: Neonatal Critical Care \(Intensive Care, HDU and Special Care\)](#)

³ [NHS Commissioning Board \(2012\). Developing Operational Delivery Networks: The Way Forward](#)

- improving cross-organisational, multi-professional clinical engagement to improve pathways of care
- enabling the development of consistent provider guidance and improved service standards, ensuring a consistent patient and family experience
- focusing on quality and effectiveness through the facilitation of comparative benchmarking and auditing of services, with implementation of required improvements
- fulfilling a key role in assuring providers and commissioners of all aspects of quality as well as coordinating provider resources to secure the best outcomes for patients across wide geographical areas
- supporting capacity planning and activity monitoring with collaborative forecasting of demand, and matching of demand and supply

Key to this model is the governance role of the network in maintaining standards of care and ensuring equitable access.

Pathways of care

I would recommend that consideration is given to **intake procedures** that ensure that children and young people referred to these services are able to access the most appropriate package of support at the earliest feasible point in their journey. One model might be that each regional centre would host a regular **intake meeting** involving multi-professional staff from the tertiary centre, the designated local specialist services and other relevant local children's services. Discussions with Gender Identity Development Service clinicians have highlighted the importance of differentiating different subgroups within the referred population who may be at risk and/or need more urgent support, assessment or intervention; there may also be subgroups where early advice to parents or school staff may be a more appropriate first step. Given that it is not always possible to make these judgements based on written referral information, consideration should be given to ring-fencing senior clinical time to make early contact with referrers or families in order to ensure that children and young people are allocated to an appropriate pathway.

There should be a whole system approach to care across the network so that children and young people can access a broad range of services relevant to their individual needs, including supportive exploration and counselling. This is important both for those who go on to medical transition and those who resolve their gender distress in other ways. There should be the ability to move flexibly between different elements of the service in a step-up or step-down model, allowing children and young people and their families/carers to make decisions at their own pace without requiring rereferral into the system.

Stakeholders have raised the need for individuals who are distinct from the professionals that they view as 'gatekeeping' access to the medical treatment to provide support and a safe space for questioning. There is considerable scope for local innovation and partnerships with voluntary sector organisations in developing these services in a range of settings.

The appropriate age for transition to adult services will need further discussion, balancing the workload and capacity of services for children and young people with the need to provide ongoing holistic family-centred care during a critical point in the young person's gender care, particularly for those with neurodiversity/special educational needs or other vulnerabilities.

National provider collaborative/research network

I have already stated that the regional centres should have regular co-ordinated national provider meetings and operate to shared standards and operating procedures. The development of protocols for assessment and treatment to ensure such consistency is an important strand of the work of the Review, and this will be based on best available evidence, the findings from our commissioned research, and expert opinion.

There should also be agreement regarding collection of a core dataset to inform service improvement and research, based on similar approaches already established in other specialities, for example, in paediatric critical care.⁴

To achieve this end, I would recommend that a formal **national provider collaborative** with an **integral research network** is established, bringing together clinical and academic representatives from the regional centres. The national provider collaborative should undertake a range of functions including:

- a forum for discussion of complex cases and/or decisions about medical care, and ultimately subsuming the role of the Multi-Professional Review Group
- an ethics forum for cases where there is uncertainty or disagreement about best interests or appropriate care
- providing opportunities for peer review between regional centres
- development of a programme of ongoing Continuing Professional Development for staff at all levels, as well as educational standards for practitioners within the various tiers of service provision
- collation of the national dataset and conduct of national audit
- development of a quality improvement programme to ensure evolving best practice
- ongoing research in areas of weak evidence

Independent oversight of data collection, audit and quality improvement (for example, through a Healthcare Quality Improvement Partnership-commissioned approach) will ensure the highest possible standards of data management and utilisation.

Embedding research in clinical practice

My interim report highlighted the gaps in the evidence base regarding all aspects of gender care for children and young people, from epidemiology through to

⁴ [PICANet – Paediatric Intensive Care Audit Network for the UK and Ireland](#)

assessment, diagnosis, support, counselling and treatment.⁵ NHS England asked me to give some further thought as to how these gaps may be addressed.

The Review has already commissioned a research programme which includes a literature review and both qualitative and quantitative research components. However, I recognise that this programme will not provide all the answers that are needed, and an ongoing programme of work will be required.

Given the particular uncertainties regarding long-term outcomes of medical intervention, and the broader knowledge gaps in this area, there is an imperative to build research capacity into the national network. This research capacity is needed to provide ongoing appraisal of new literature and rapid translation into clinical practice, to continue to identify areas of practice where further research is needed, and to develop a research portfolio that will inform policy on assessment, support and clinical care of children with gender dysphoria, from presentation through to appropriate social, psychological and medical management.

As already highlighted in my interim report, the most significant knowledge gaps are in relation to treatment with puberty blockers, and the lack of clarity about whether the rationale for prescription is as an initial part of a transition pathway or as a 'pause' to allow more time for decision making. For those who will go on to have a stable binary trans identity, the ability to pass in later life is paramount, and many will decide that the trade-offs of medical treatment are a price that is fully justified by the ability to live confidently and comfortably in their identified gender. The widely understood challenge is in determining when a point of certainty about gender identity is reached in an adolescent who is in a state of developmental maturation, identity development and flux.

It is the latter option regarding a 'pause' for decision making about which we have the least information. The rationale for use of puberty blockers at Tanner Stage 2 of development was based on data that demonstrated that children, particularly birth-registered boys who had early gender incongruence, were unlikely to desist once they reached early puberty; this rationale does not necessarily apply to later-presenting young people, including the predominant referral group of birth-registered girls. We do not fully understand the role of adolescent sex hormones in driving the development of both sexuality and gender identity through the early teen years, so by extension we cannot be sure about the impact of stopping these hormone surges on psychosexual and gender maturation. We therefore have no way of knowing whether, rather than buying time to make a decision, puberty blockers may disrupt that decision-making process.

A further concern is that adolescent sex hormone surges may trigger the opening of a critical period for experience-dependent rewiring of neural circuits underlying

⁵ [Olson-Kennedy, J, Cohen-Kettenis, P. T, Kreukels, B. P, Meyer-Bahlburg, H. F, Garofalo, R, Meyer, W, & Rosenthal, S. M. \(2016\). Research priorities for gender nonconforming/transgender youth: gender identity development and biopsychosocial outcomes. Current opinion in endocrinology, diabetes, and obesity 23\(2\), 172–179. DOI:10.1097/MED.0000000000000236.](#)

executive function⁶ (i.e. maturation of the part of the brain concerned with planning, decision making and judgement). If this is the case, brain maturation may be temporarily or permanently disrupted by puberty blockers, which could have significant impact on the ability to make complex risk-laden decisions, as well as possible longer-term neuropsychological consequences. To date, there has been very limited research on the short-, medium- or longer-term impact of puberty-blockers on neurocognitive development.

In light of these critically important unanswered questions, I would suggest that consideration is given to the rapid establishment of the necessary research infrastructure to prospectively enrol young people being considered for hormone treatment into a formal research programme with adequate follow up into adulthood, with a more immediate focus on the questions regarding puberty blockers. The appropriate research questions and protocols will need to be developed with input from a panel of academics, clinicians, service users and ethicists.

Without an established research strategy and infrastructure, the outstanding questions will remain unanswered and the evidence gap will continue to be filled with polarised opinion and conjecture, which does little to help the children and young people, and their families and carers, who need support and information on which to make decisions.

I hope this further advice is helpful as you look to develop a detailed service specification. I appreciate you will want some time to consider my advice and am happy to discuss both the longer-term ambition and any interim arrangements that may be necessary, particularly in relation to the development of the clinical and research protocols.

Yours sincerely



Dr Hilary Cass
Chair, Independent Review of Gender Identity Services for Children and Young People

⁶ [Sisk C L \(2017\). Development: Pubertal Hormones Meet the Adolescent Brain: Current Biology. 27\(14\): 706-708. DOI: 10.1016/j.cub.2017.05.092.](#)

This page is intentionally left blank

Appendix 7



Dr Hilary Cass
Chair
Independent Review of Gender Identity
Services for Children and Young People

National Director
Specialised Commissioning
NHS England

Sent by email

31 January 2023

Dear John

As the Review moves into its final phase, I thought it would be helpful to provide an update on progress since my last letter, to outline the Review timetable going forward, and highlight some areas in which NHS England (NHSE) and colleagues across the system may be able to help achieve the Review's objectives.

Over the last few months, the Review has continued to engage with key stakeholders across the statutory and voluntary sectors, as well as leaders of professional organisations, and I have had ongoing listening sessions with individuals who have direct service experience. The Review's commissioned research team is making excellent progress with the systematic reviews, a review of existing guidelines, an international survey of services in countries with comparable healthcare systems, and the qualitative research. We will have outputs from these pieces of work by the spring. I have also established a Clinical Expert Group, including representatives of professional bodies, NHSE's phase one provider units, gender experts and others with expertise in children and young people's care, to help us interpret the findings of this research. Alongside this, the Review is engaging with service users to gain insight into their perspectives on these initial findings.

We have discussed previously the fact that the commissioned data linkage study (part of our quantitative research programme), which represents a unique opportunity to collect longer-term outcome data on this population, has been much more complex than initially envisaged, and is taking longer to establish. However, I am pleased to say that we have now received provisional approvals and will soon be moving into the next phase of the work, which will involve detailed information for service users and the option to opt out before commencement of any data collection. The full protocol will be published on our website.

I anticipate that by the summer, in addition to the strands of work described above, we will have some information on the intermediate outcomes for children and young people with gender dysphoria, as well as the changing characteristics of this group, using data which is already routinely collected within the NHS. However, the complexities encountered in establishing the data linkage study means that the full results of this element will likely not be available before the Review is concluded. As you know, we have already had discussions about the logistics of establishing a formal research network (as described in my [letter of July 2022](#)) to receive the results of this study, oversee a clinically informed future research programme and ensure translation into clinical practice.

In the interim, I would like to ask for your help in obtaining some existing data which is of more immediate importance to understanding the needs of this population:

- Firstly, to-date the Review has been working on the understanding that around 20% of children and young people seen by the Gender Identity Development Service (GIDS) enter a hormone pathway. At this stage, it is crucial for us to verify that this is an accurate assumption as it has significant bearing on getting a fuller understanding of the outcomes of the existing clinical approach. I anticipate that it should be relatively straightforward to clarify this through an audit of discharge summaries and would be grateful if this could be arranged as swiftly as possible with colleagues at GIDS.
- Secondly, I understand from discussions with clinicians, that there has been a significant change in the demographic of referrals to adult NHS Gender Dysphoria Clinics (GDCs) - from a more mixed group in terms of age and birth-registered gender to a population base where a significant majority are under 25, with a higher proportion of birth registered females. This obviously comprises a mix of referrals from GIDS and direct referrals to adult clinics. I would be grateful if more robust data on this could be obtained since it is relevant for thinking about both the transition of young people to adult services and potential unmet need within the children and young people's service.

In terms of broader support, there are a number of strands of work which are outside our control, but are crucial to the successful delivery of the Review:

- I would particularly like to thank NHS-Digital for their help to-date in moving forward on the data linkage and look forward to continuing to work with them on this.
- I also look forward to working with the adult NHS GDCs, which are a vital part of understanding the patient journey.

The Review will continue to share information as it becomes available, and I anticipate submitting a final report to NHSE by the end of the year. Within that, I will be making clear those issues we consider to be the sole responsibility of the healthcare system and signposting other issues which fall outside the responsibility of the NHS and require the input of other agencies and organisations and I will make recommendations accordingly.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Hilary', with a stylized loop at the end.

Dr Hilary Cass
Chair, Independent Review of Gender Identity Services for Children and Young People

This page is intentionally left blank

Appendix 8

The Gender Identity Development Service Audit Report

June 2023



Contents

Background..... 3

Aims and objectives 3

Audit scope 3

Introduction to methodology 3

 Data extraction methodology 4

 Analysis methodology..... 4

Introduction to results..... 5

 Theme 1: Patient demographic profile and referral to GIDS..... 5

 Theme 2: Endocrinology referral and care pathway 7

 Theme 3: Patients not referred to endocrinology care pathway 14

 Theme 4: Discharge from GIDS – all patients summary 16

Audit challenges 18

References..... 19

Appendices..... 20

Background

An independent review of gender identity services for children and young people ([The Cass Review: Interim Report](#)), has identified a gap in the understanding of treatment pathways once patients are within the Gender Identity Development Service (GIDS) at the Tavistock and Portman NHS Foundation Trust.

As a result of this, a request by the Cass Review team was submitted to NHS England to undertake an audit of discharge notes for patients over a defined period.

NHS England approached NHS Arden and Greater East Midlands Commissioning Support Unit (the CSU) to undertake this audit on behalf of the Cass Review team.

Audit aims and objectives

The aim of the audit was to understand the treatment pathways that children and young people who have entered the GIDS service have received and explore if there are any inconsistencies between GIDS providers.

The key objectives of this study were to:

- Develop a suitable audit template to gather the required information from patients' medical records
- Identify if there are any variations in referrals to endocrinology across the GIDS teams
- Capture information about the proportion of patients entering the GIDS who are subsequently discharged on hormone therapy
- Understand what care patients have received at the point of discharge.

The evidence from this audit will be used to support the next steps of the Cass Review.

Audit scope

The following patients were included in the data collection

- Patients who have attended at least 2 appointments to Tavistock & Portman NHS Foundation Trust GIDS
- Patients who have been discharged from the GIDS between 1 April 2018 and 31 December 2022
- Responsible commissioner is NHS England or NHS Wales

Introduction to methodology

To fulfil the aims and objectives of the study, the CSU developed an audit template in Microsoft Excel® (see Appendix 1) in collaboration with key clinicians at the Tavistock and Portman NHS Foundation Trust, to capture key information that would be extracted from individual patient records. Drop-down lists were utilised where possible to enable standardised information to be captured.

The sections of the audit were grouped into the following themes:

- Patient demographic profile
- Initial referral information
- Endocrinology referral and care pathway
- Discharge information
- Other comments

The CSU identified a clinical workforce to undertake the audit. This ensured that the audit would be to utilise a clinical workforce who:

- 1) Were bound by their professional registration for patient confidentiality
- 2) Can understand clinical terminology
- 3) Can interpret information to undertake the audit
- 4) Can limit the scope of their tasks to achieve the audit aims

Carenotes system training was provided by the Tavistock and Portman NHS Foundation Trust and individual log-in details were provided to the team. Recognising staff will be required to work within clinical systems at the GIDS which contains highly sensitive confidential patient identifiable information, honorary contracts were put in place between the individual and the trust.

Data extraction methodology



The Tavistock and Portman NHS Foundation Trust provided the CSU with a list of 3466 patients who had been discharged from the service between 1 April 2018 and 31 December 2022, covering the following regional GIDS teams

- GIDS Midlands (incl. Birmingham)
- GIDS Leeds
- GIDS Southeast (incl. London)
- GIDS Southwest (incl. Exeter and Bristol)

The patient list was grouped according to the GIDS team and allocated in batches of between 20-50 patients to the audit team who then reviewed each patient record within Carenotes.

Analysis methodology



To support analysis of the data from the audit, expertise was drawn from across the CSU.

Data from each individual auditor was cleansed and combined into a master Microsoft Excel® spreadsheet. Any patients who did not meet the criteria defined within the audit scope, were excluded from the analysis

Where information was captured as 'other', details were provided in the comments section of the audit template, and these were further grouped where possible. For example, several patients had been discharged because they had moved outside of the NHS England and NHS Wales geography.

In context of the [Bell v Tavistock High Court Judgement](#), the date of the judgement, 1st December 2020 was used to undertake the analysis. The terms pre-Bell and post-Bell are used through this report.

Introduction to results

Out of the 3499 patients audited, 3306 were included within the analysis. Of the 193 who were excluded, patients included those who were outside of the NHS England or NHS Wales footprint, non-gender dysphoria patients (for example a patient receiving support due to a family member undergoing gender reassignment), patients who had less than 2 appointments at GIDS and patients who had not been discharged from the service.

The results from the audit are separated into the following themes:

1. Patient demographic profile and referral to GIDs
2. Endocrinology referral and care pathway
3. Discharge from GIDs

Theme 1. Patient demographic profile and referral to GIDs

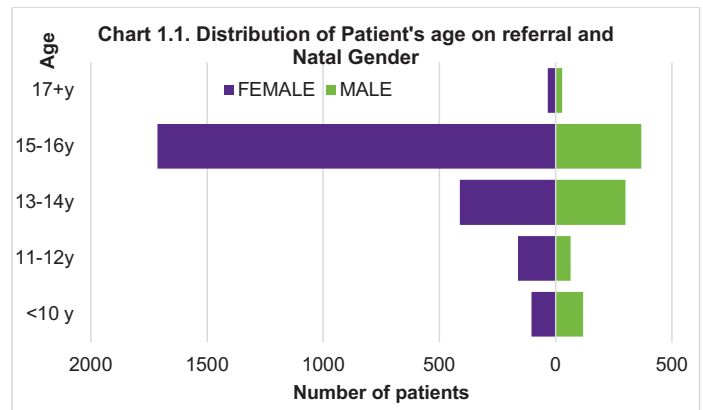
Gender and age profile

The overall natal and current gender of the patients who were audited is detailed within table 1.1. Upon referral into the service, 73% of referrals were for natal female patients, and 27% for those with a natal gender of male. At the point of discharge from the GIDS, the current gender listed within the patients Carenotes record identified a larger proportion, 61% of patients who identified as male.

Table 1.1. Gender profile

	Natal Gender (%)	Current gender (%)
Female	73%	22%
Male	27%	61%
Trans-unspecified/Gender Identity unknown	Not applicable	10%
Non-Binary	Not applicable	5%
Gender questioning	Not applicable	2%

The distribution of patients natal gender and age at the point of referral into the GIDS service is shown in chart 1.1. The minimum age of patients being referred into the GIDS service was 3years, the maximum age was 18years, with a mean and median of 14years.



Referral source

48.6% of patients referred to GIDS were referred by CAMHS/CYP Mental Health Services and 40.68% were referred by their GP practice (see table 1.2). The largest proportion of referrals from CAMHS/CYP Mental Health Services were consistent across the GIDS teams and a full breakdown of the referral source by the GIDS team is provided in appendix 2.

Table 1.2. Referral source	
Referral Source	% of patients
CAMHS / CYP Mental Health	48.6%
GP Practice	40.7%
Children's or Council Service/Local Authority	3.3%
Voluntary sector	3.1%
School	1.8%
Paediatrics	1.6%
Healthcare provider - other	X
Healthcare provider - private	X
Other	X

GIDS team

Table 1.3 shows where patients were assigned their GIDS primary team as identified in the original patient list received from the Tavistock and Portman NHS Foundation Trust.



Table 1.3. Primary GIDS team

GIDS Team	% of patients
GIDS Leeds	35.27%
GIDS Southeast/London	28.31%
GIDS Midlands/Birmingham	19.87%
GIDS Southwest/Bristol/Exeter	16.55%

Limitations of analysis

- The CSU audit identified that although patients were assigned to a primary GIDS team, often based upon the patient's location, the GIDS team where they received their main assessments and care may have been different to the primary team which has not been analysed.
- There were variations in recorded information between clinics, for example inconsistencies in the information contained within the closing summaries, patient contract information, spells and referral letters. Whilst the CSU team tried to adopt as much consistency as possible, it is recognised that there may be slight variations or inaccuracies in the information that was obtained, such as referral and discharge dates.



Key findings

- 73% of patients are natal female, and 27% natal male when referred into the GIDS.
- The largest proportion of referrals into the GIDS are from CAMHS/CYP Mental Health (48.6%) and GP Practices (40.7%).



Theme 2. Endocrinology referral and care pathway

Across the patients audited, 27% were referred to endocrinology. Analysis against the Bell judgement was not possible due to the methodology of the data collection (refer to limitations within this section). The breakdown of patients by GIDS team is provided in table 2.1.

Table 2.1. Percentage of patients under the care of each GIDS team, referred to endocrinology	
GIDS Team	% of patients
All teams	27.0%
GIDS Leeds	32.7%
GIDS Midlands/Birmingham	11.1%
GIDS Southeast/London	20.9%
GIDS Southwest/Bristol/Exeter	11.7%

Excluding patients who did not attend/engage with the GIDS, the referral rate to endocrinology was 28%. Excluding this same cohort or patients along with those who refused the service, the referral rate to endocrinology was 31%.

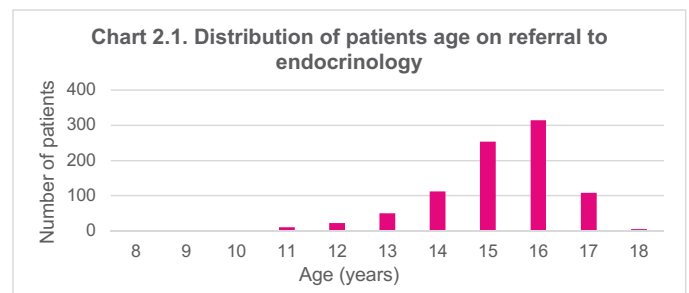
Gender profile on referral to endocrinology

34.6% of natal males were referred to endocrinology, compared to 24.2% of natal females.

Of the total patients referred into endocrinology, 34% were natal male, and 66% natal female.

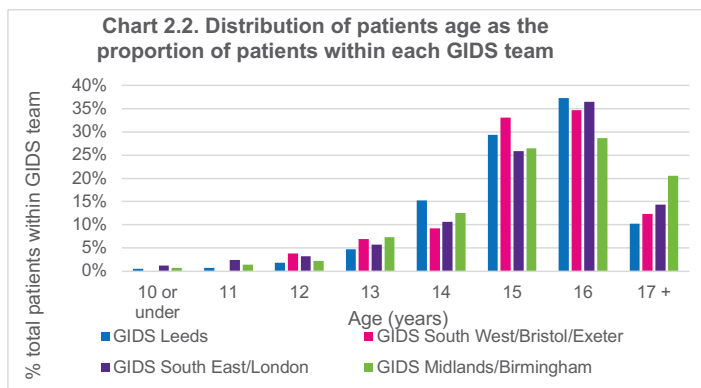
Age profile on referral to endocrinology

Patients were referred to endocrinology between the ages of 8 years and 18 years, although the <10 patients referred post-Bell were all 17 years. The mean and median age of referral was 15 years. Chart 2.1 shows the distribution of patients age on referral.



The distribution of age broadly similar across the GIDS as shown in chart 2.2. Excluding patients who did not attend/engage or who refused the service had no impact on the distribution of the ages.





Appointments with the GIDS prior to referral to endocrinology

Patients received on average a total of 6.7 appointments with GIDS prior to referral to endocrinology. Analysis against the Bell judgement identified that patients received an average of 6.6 appointments pre-Bell, and 15.8 appointments post-Bell before being referred to endocrinology.

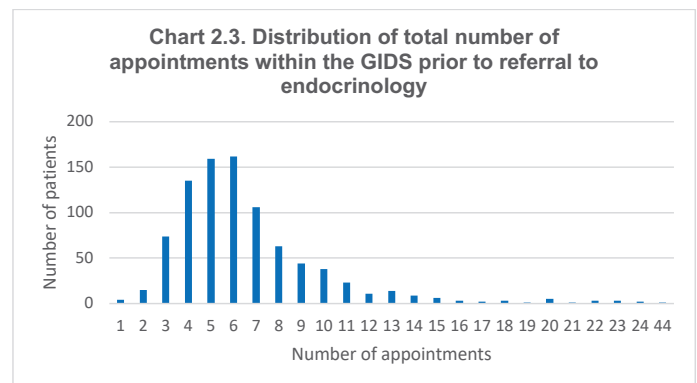
Table 2.2 provides a breakdown of appointments by the GIDS referral team.

Table 2.2. Total number of appointments with GIDS prior to referral to endocrinology, by GIDS team			
GIDS Team	Average	Minimum	Maximum
All teams	6.7	1	44
GIDS Leeds	6.3	1	23
GIDS Midlands/Birmingham	6.4	2	22
GIDS Southeast/London	7.8	1	44
GIDS Southwest/Bristol/Exeter	5.8	1	14

<10 patients seen by the GIDS Leeds team were referred to endocrinology after the first appointment due to transfer of care and were already receiving puberty blocker treatment.

The distribution of appointments is shown in chart 2.3. There was a similar distribution of appointments according to the GIDS team, full details are provided in appendix 3.

Post-Bell, <10 patients were referred to endocrinology had 12 or more appointments with the GIDS prior to the referral.



Limitations of analysis

- The date of referral to endocrine was captured as part of the audit collection tool. The audit did not capture the date which the patient was then seen by endocrinology. Recognising the waiting times into the service, it was not possible to undertake analysis against the Bell judgement upon referral into endocrinology.
- The audit criteria focussed on patients who had been discharged from the GIDS. Therefore there is potentially a cohort who have not been considered as part of this audit and thereby referrals into endocrine could be higher than indicated in this audit.



Key findings

- Overall, 27% of patients were referred to endocrinology. This was slightly increased when excluding patients who did not attend/engage with the service or declined the service.
- The largest proportion of patients referred to endocrinology are seen by GIDS Leeds (32.7%) and GIDS Southeast/London (20.9%).
- 34.6% of natal males were referred to endocrinology, compared to 24.2% of natal females.
- A higher proportion of patients referred to endocrinology are aged 15-16years.
- Patients receive an average of 6.7 appointments prior to referral to endocrinology, with a range of 1 to 44.



First interventions within endocrinology

• First intervention type overview

Table 2.3 shows the first interventions received by patients upon referral to endocrinology. Please note, the first intervention was not necessarily the first appointment, where treatment was recommended there were often a number of appointments required to determine the patients' suitability for treatment (e.g., DEXA scans and blood tests prior to commencing puberty blocker treatment).

There was little variation in the first intervention following endocrinology referral when analysed by GIDS team (see appendix 4).

Of the <10 patients referred post-Bell, X received a puberty blocker only, X patients were discharged to the Gender Identity Clinic (GIC) and the other patients decided to access treatment privately. These patients were aged 16 to 17years of age upon referral.

Table 2.3. First intervention received by patients referred to endocrinology

First intervention type	% of patients
Puberty Blockers ONLY	81.5%
Patient declined treatment	7.1%
Puberty assessment ONLY	5.6%
Other*	X
DNA	X
Accessed treatment outside NHS protocols	X
Puberty blockers AND cross-sex hormones	X
Puberty Blocker not started due to JR	X
Did not access physical treatment	X
Cross-sex hormones ONLY	X

Puberty blocker (NHS before GIDS) AND cross-sex hormones	X
Puberty blockers (privately before GIDS) AND cross-sex hormones	X

***Other** – first interventions captured as other represent a small proportion of patients for reasons which include; referral on hold, other opinion required, discharged to GIC, notes incomplete, puberty blocker advised but unclear if started, treatment not advised on professional advice, patient moved from abroad on puberty blocker and referred on first appointment, puberty blocker not started due to patient misunderstanding about treatment regime, treatment recommended but supply issues (GP prescribing or pharmacy).

- **First intervention type by natal gender**

The first intervention patients received according to their natal gender was broadly similar (see appendix 5).

- **Treatment type and patients' age**

Appendix 6 shows the intervention types by age at the point of referral, against the total proportion of patients referred into endocrinology. 52.5% of patients between 15-16 years received puberty blockers, followed by those aged 13-14 years of age (16.5%).

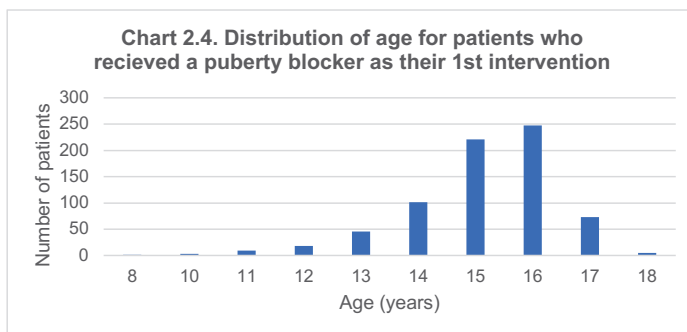
For patients receiving puberty blockers and/or cross-sex hormones upon referral to endocrinology (excluding those who have received clinical treatments outside of the GIDS), table 2.4 provides information about the age at which the patients were upon referral, although the patient may have been older at the point of receiving treatment due to waiting times to be seen by endocrinology.

Table 2.4. Treatment type and patients age at referral, by GIDS team

Puberty-blockers ONLY			
	Average age	Minimum age	Maximum age
All teams	15	8	18
GIDS Leeds	15	8	18
GIDS Midlands/Birmingham	15	10	17
GIDS Southeast/London	15	10	18
GIDS Southwest/Bristol/Exeter	15	12	17
Cross-sex hormones ONLY			
GIDS Leeds	N/A	N/A	N/A
GIDS Midlands/Birmingham	N/A	N/A	N/A
GIDS Southeast/London	<10 patients aged 15 years		
GIDS Southwest/Bristol/Exeter	<10 patients aged 17 years		
Puberty-blocker and cross-sex hormones			
GIDS Leeds	<10 patients aged 15 years <10 patients aged 16 years		
GIDS Midlands/Birmingham	<10 patients aged 14 years		
GIDS Southeast/London	<10 patients aged 16 and 17 years		
GIDS Southwest/Bristol/Exeter	N/A	N/A	N/A



Chart 2.4 shows the distribution of patients ages for those who received a puberty blocker as their first intervention.



Limitations of analysis

- The date that the patient started treatment as part of their first intervention whilst under the care of the endocrinology team was not captured, as it was difficult to capture this accurately and was not part of the audit tool design. The age of the patient upon referral into endocrinology was therefore used for the analysis.



Key findings

- 81.5% of patients referred into endocrinology received puberty blockers, of which 52.5% were between 15-16 years old.
- A small number of patients received cross-sex hormones (<10 patients) or both puberty blockers and cross-sex hormones (<10 patients), as their 1st intervention within the endocrinology service.
- <10 patients who were initially advised to start puberty blockers did not start treatment due to the Bell judgement. All patients were aged 16-17 years on referral.
- Post-Bell, <10 patients received a puberty blocker, <10 patients were discharged to the GIC and <10 patients decided to access treatment privately.
- Patients were on average 15 years old when referred for puberty blocker treatment.



Final interventions within endocrinology upon discharge from the GIDS

Table 2.5 shows the end point intervention upon patients discharge from the GIDS, with 54.8% ending up on both puberty blockers and cross-sex hormones.

Of the <10 patients who were referred to endocrinology post-Bell, <10 patients who subsequently received puberty blockers remained on the puberty blocker, but treatment was withdrawn for other patients on professional advice due to side effects. <10 patients was discharged to the GIC and did not access physical treatment whilst under the care of the GIDS, and the final patients decided to access treatment privately.

Table 2.5. Final intervention received by patients referred to endocrinology	
First intervention type	% of patients
Puberty blockers AND cross-sex hormones	54.8%
Puberty Blockers ONLY	19.9%
Patient declined treatment	11.4%
Accessed treatment outside NHS protocols	3.9%
Did not access physical treatment	3.3%
Puberty assessment ONLY	2.0%
Treatment withdrawn - DNA	1.5%
Detransitioned/detransitioning	X
Unknown/unclear	X
Puberty Blocker not started due to JR	X
Treatment recommended but supply issues (GP prescribing or pharmacy)	X
Treatment withdrawn - professional advice/side effects	X
Cross-sex hormones ONLY	X
Puberty blockers AND cross-sex hormones (privately)	X

Appendix 7 shows the final intervention types by age against the total proportion of patients referred into endocrinology.

The final intervention patients received according to their natal gender as shown in appendix 8 shows that a higher proportion of natal females (57.9%) ended up on both puberty blockers and cross-sex hormones compared to natal males (47.7%). A higher proportion of natal males (24.7%) ended up on puberty blockers alone compared to natal females (17.4%).

• **First intervention puberty blockers: Final intervention type**

As shown in table 2.6, 64% of patients who were initially started on a puberty blocker at their first intervention pre-Bell, ended up on both a puberty blocker and cross sex-hormone through the GIDS (this does not include 1 patient who was on both interventions however was accessing cross-sex hormones privately). 23% of patients remained on a puberty blocker alone.

Table 2.6. Final intervention received by patients referred to endocrinology	
First intervention type	% of patients
Puberty blockers AND cross-sex hormones	64.0%
Puberty Blockers ONLY	23.0%
Patient declined treatment	7.3%
Accessed treatment outside NHS protocols	2.1%
Treatment withdrawn - DNA	1.4%
Unknown/unclear	X
Detransitioned/detransitioning	X
Treatment withdrawn - professional advice/side effects	X
Puberty blockers AND cross-sex hormones (privately)	X
Treatment recommended but supply issues (GP prescribing or pharmacy)	X

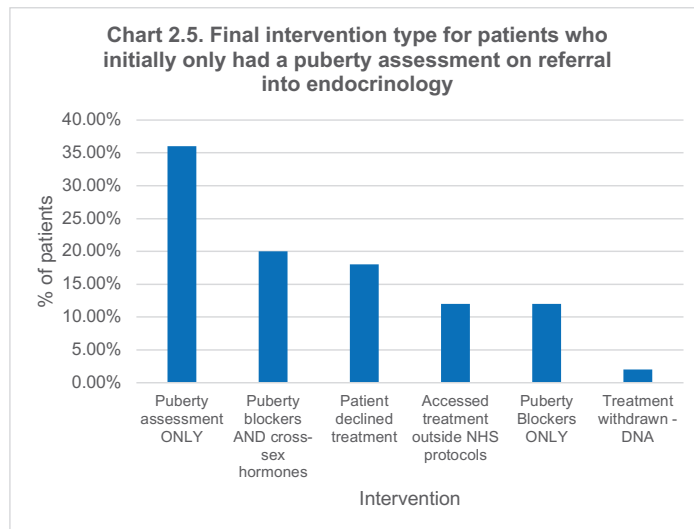


- **First intervention puberty blockers and cross-sex hormones: Final intervention type**

100% of pts (n=<10) who were started on a puberty blocker and cross-sex hormone, remained on the same treatment

- **First intervention initial assessment only: Final intervention type**

Where patients were referred to endocrinology and only received a puberty assessment at their first intervention, chart 2.5 shows the final intervention that the patient had following discharge from the GIDS.

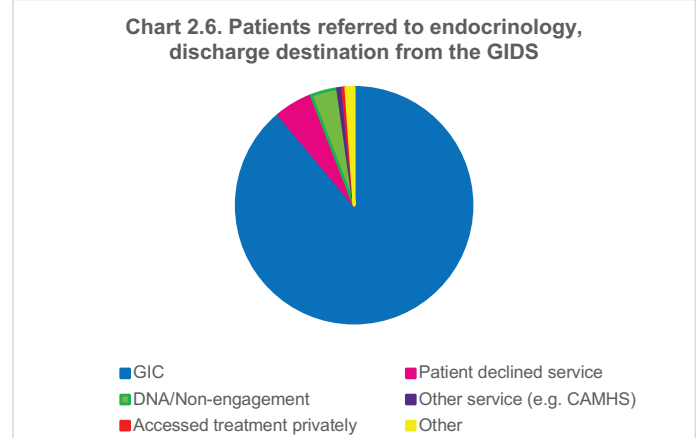


- **Detransitioned/detransitioning patients**

<10 patients who went on to detransition back to their natal gender, all were female. <10 patients had received puberty blockers as their first intervention following endocrinology referral, however it was not clear from the records of the final patient what interventions they had received. They had received an average of 6.5 appointments prior to referral to endocrinology (range 3-10 appointments).

Discharge destination for patients referred to endocrinology

For patients who were referred to endocrinology, 89% of patients were referred to a GIC following discharge from the GIDS (see chart 2.6), 5% of patients declined the GIDS, and 3% did not attend or engage with the service. Other reasons for discharge included to different services, accessed treatment privately, moved outside of the NHS England or NHS Wales footprint, or where the discharge destination was unknown.



Limitations of analysis

- Although first intervention and final intervention at discharge from the GIDS was captured, the audit did not gather any information about any interventions which the patient may have received between these time periods.



Key findings

- 54.8% of patients referred to endocrinology ended up on both puberty blockers and cross-sex hormones.
- 57.9% of natal females ended up on both puberty blockers and cross-sex hormones compared to 47.7% for natal males.
- 24.7% of natal males ended up on puberty blockers alone compared to 17.4% of natal females.
- For patients who initially received a puberty blocker upon referral to endocrinology, 64% went on to receive both a puberty blocker and cross-sex hormone.
- All patients who started on both a puberty blocker and cross-sex hormone, remained on the same treatment upon discharge from the GIDS.
- Of the patients who only initially had a puberty assessment, 12% went on to have puberty blockers and a further 20% went on to have both puberty blockers and cross-sex hormones.
- 89% of patients were discharged to a GIC.
- 9% of patients declined, did not attend or engage with the service.
- <10 patients detransitioned back to their natal gender, all of whom were female, and <10 patients were confirmed as having received puberty blockers as their first intervention.

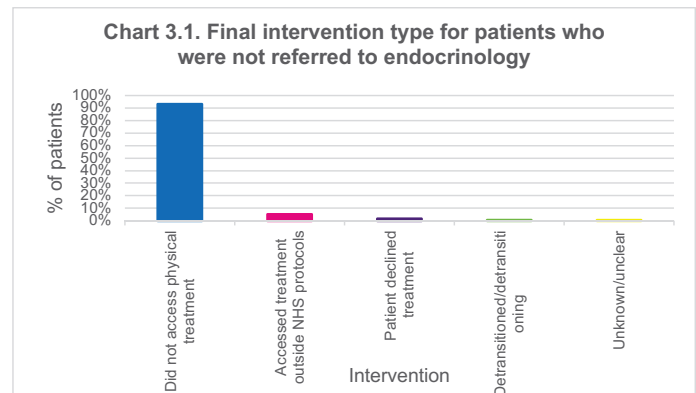


Theme 3. Patients not referred to endocrinology pathway

Across the 3306 patients' audits, 2415 patients were not referred to endocrinology by the GIDS team.

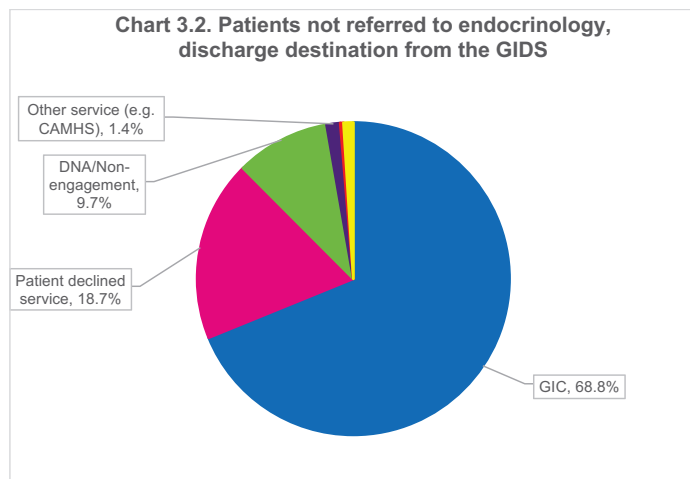
Final interventions for patients not referred to endocrinology

Chart 3.1 shows final intervention patients received upon discharge from the GIDS. 93.0% of patients did not access any physical treatment whilst under the GIDS. 5.0% of patients accessed treatment outside of NHS protocols, 1.5% declined treatment and 0.5% of patients detransitioned or were detransitioning back to their natal gender.



Discharge destination for patients not referred to endocrinology

For patients who were not referred to endocrinology, 69% were referred to a GIC following discharge from the GIDS (see chart 3.2), 19% of patients declined the GIDS, and 10% did not attend or engage with the service. Other reasons for discharge included to different services, patient death, or where the discharge destination was unknown.



Key findings

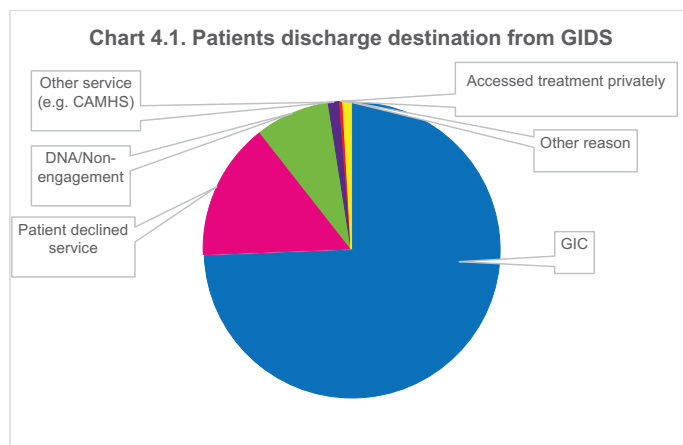
- 93% of patients who were not referred to endocrinology did not access any physical treatment, and 5% accessed treatment outside of NHS protocols.
- 69% of patients were referred to a GIC.
- 29% of patients declined, did not attend or engage with the service.



Theme 4. Discharge from GIDs – all patients summary

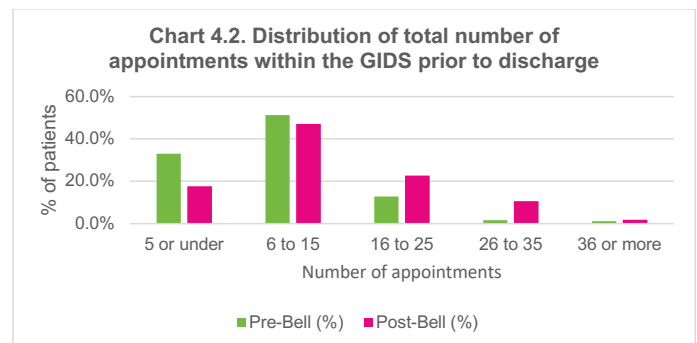
Discharge destination

Over 70% of patients were referred to a GIC following discharge from the GIDS (see Chart 4.1). Approximately 15% of patients declined the GIDS, and 8% did not attend (DNA) or did not engage with the service. This was similar when comparing the discharge destination pre-Bell and post-Bell. Other reasons for discharge included discharge to other services, moving outside of the NHS England or NHS Wales geographies, patient deaths or where the discharge destination was unknown.



Appointments with the GIDS prior to discharge

Patients received on average a total of 11 appointments with GIDS prior to discharge, with an average of 10 appointments pre-Bell and 14 appointments post-Bell, which included any relevant endocrinology appointments where the patient was under the care of the endocrinology team. The distribution of appointments pre-Bell and post-Bell are shown in Chart 4.2.



Limitations of analysis

- There was inconsistency in the date recorded for discharge within the patients notes, with there being a delay in the processing of the discharge for the patient. The CSU audit team attempted to have consistency in the date used by utilising the closing summary as the first reference point, however this was not always possible where closing summaries were incomplete.



Key findings

- 70% of patients are referred to a GIC upon discharge from the GIDS.
- 8% of patients did not attend/engage or declined the service and were therefore subsequently discharged.
- Patients received an average of 11 appointments with the GIDS prior to discharge.



Arden & GEM CSU would like to thank colleagues at the Tavistock and Portman NHS Foundation Trust for their support provided during the audit process.



References

Dr Hilary Cass. (2022, February). The Cass Review: *Independent review of gender identity services for children and young people: Interim Report*. Retrieved from <https://cass.independent-review.uk/wp-content/uploads/2022/03/Cass-Review-Interim-Report-Final-Web-Accessible.pdf>

Dame Victoria Sharp P., Lord Justice Lewis, Lieven J. (2020, December). Bell v Tavistock Approved Judgement.. Retrieved from <https://www.judiciary.uk/wp-content/uploads/2020/12/Bell-v-Tavistock-Judgment.pdf>

Appendices

Appendix 1a. Audit Template questions: Patient demographics and initial referral information

Patient ID	Date of Birth	Natal gender (sex assigned at birth)	Current gender	Date of Referral to the GIDS	Referral Source	Gender Identify Development Service (GIDS) team	Lead clinician at initial assessment	Current Lead Clinician
Do not enter NHS number	Date (01/01/2023)	Male (M) or Female (F)	Male, Female, Non-Binary or other	Date (01/01/2023)	CAMHS / CYP Mental Health, Childrens or Council Service/Local Authority, GP Practice, Paediatrics, Private Healthcare, School, Voluntary sector, Other	London/Leeds/Birmingham/Midlands Bristol/ Exeter, South East,South West, Other	Full Name	Full Name

Appendix 1b. Audit Template questions: Endocrinology referral and care pathway

Has the patient been referred to the endocrine clinic	If YES (Y), what was their 1st intervention?	If YES (Y), date of referral to endocrine?	If YES (Y), Number of appointments patient has attended pre referral to endocrine	Is patient discharged from the GIDS on referral to endocrine clinic
Yes or No If No - move to column U	1. ONLY Puberty Blockers ONLY (PB), 2. ONLY x-sex hormones /gender affirming hormones (SH/GAH) 3. BOTH PB and SH/GAH (PB + SH/GAH) 4. Puberty assessment ONLY 5. Pt declined treatment 6. Other	Date (01/01/2023)	5 (INCLUDE: 1-2-1 appts with clinicians, network/professional meetings, Child Protection/Children in Need meetings EXCLUDE: Support meetings such as summer groups, family days, parents and siblings groups)	Yes or No If No - move to column T

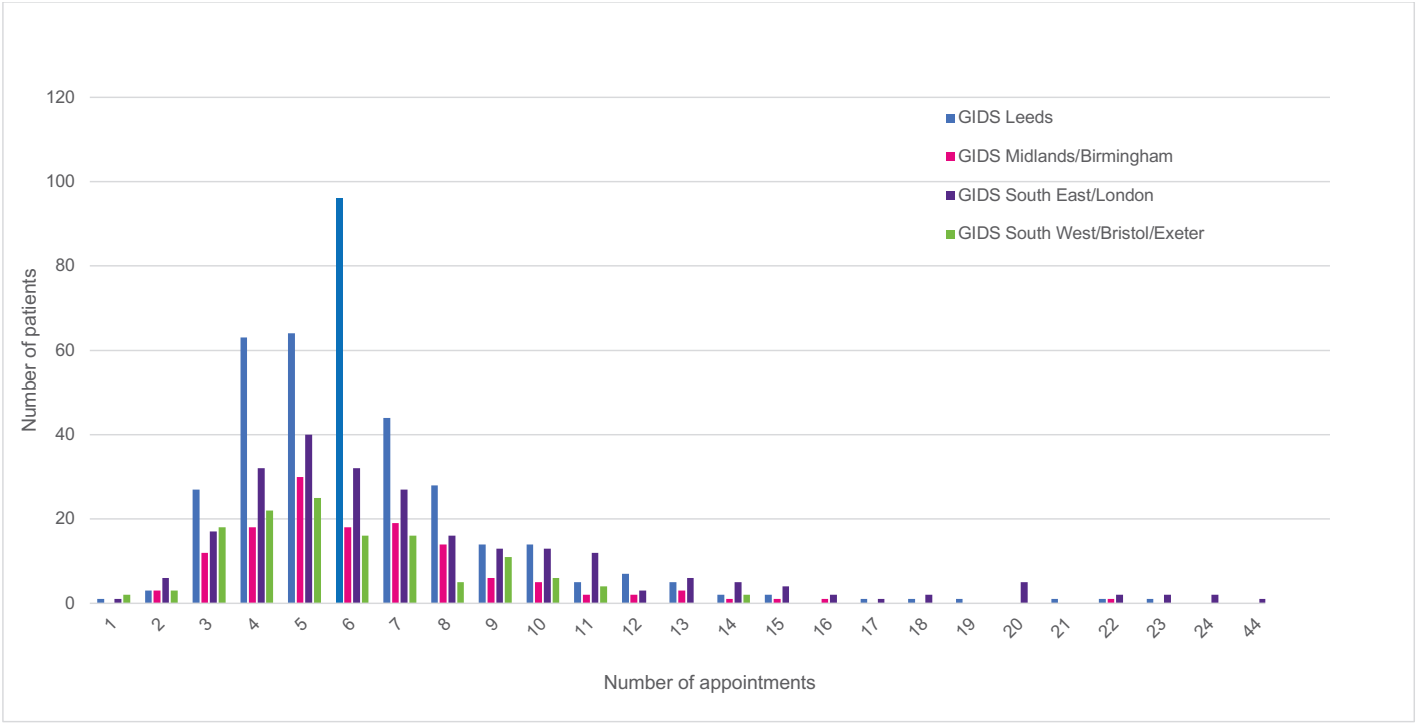
Appendix 1c. Audit Template questions: Discharge information and other comments

Has the patient been discharged for any other reason?	If YES (Y), Discharge reason on patients case file	If YES (Y), Number of appointments patient has attended at GIDS before discharge	If YES (Y), Date of discharge	Does the patient remain on the following at the point of discharge?	Other comments
Yes or No (If No, data capture for this patient is complete)	Select drop down (GDC, patient declined service, other service e.g. CAMHS, patient deceased, other reason)	5 (INCLUDE: 1-2-1 appts with clinicians, network/professional meetings, Child Protection/Children in Need meetings EXCLUDE: Support meetings such as summer groups, family days, parents and siblings groups)	Date (01/01/2023)	1. ONLY Puberty Blockers ONLY (PB), 2. ONLY x-sex hormones /gender affirming hormones (SH/GAH) 3. BOTH PB and SH/GAH (PB + SH/GAH) 4. Puberty assessment ONLY 5. Pt declined hormonal treatment 6. Other	Please do not include PID Ensure any relevant information is captured. Where you have selected 'other' in a column, please indicate the specifics along with which column question it related to. e.g. Column V - patient moved abroad

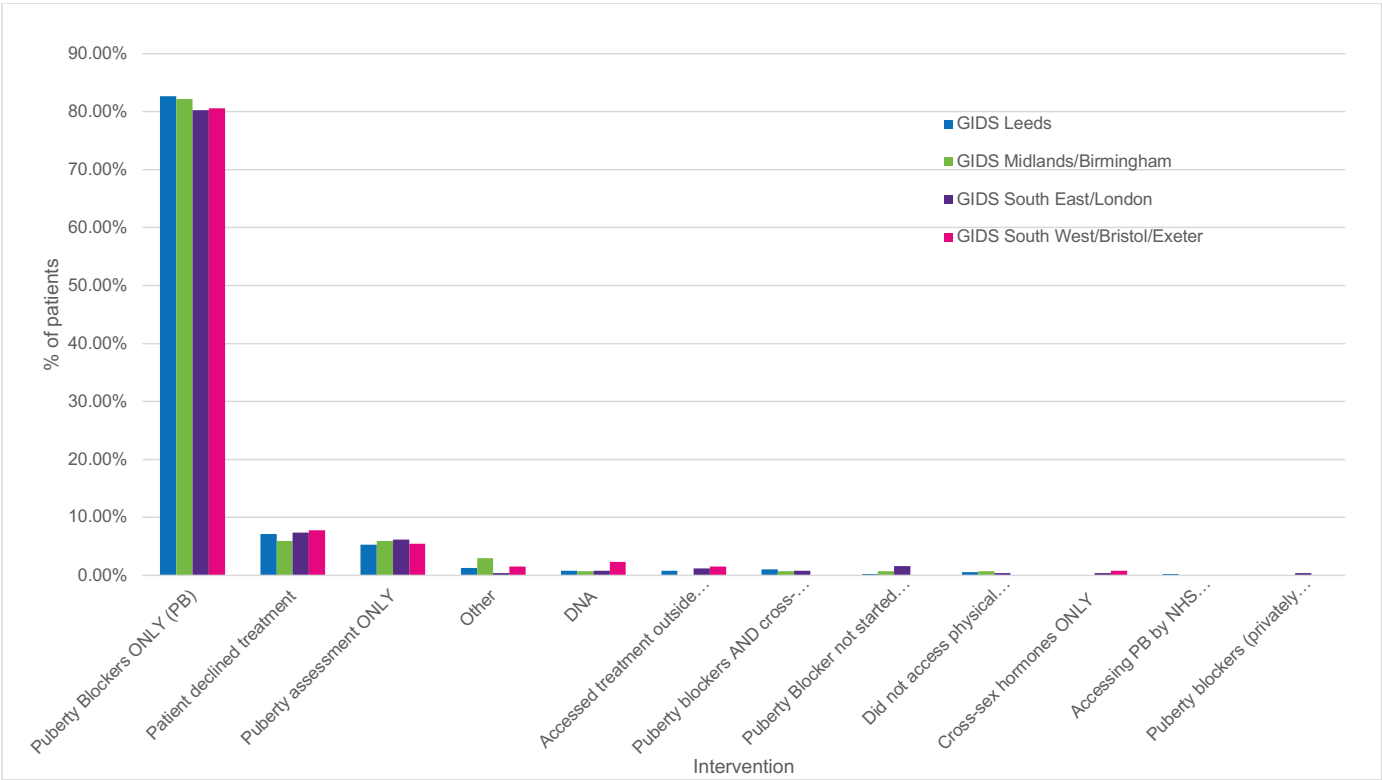
Appendix 2. Breakdown of referral source by GIDS team

	GIDS Leeds	GIDS Midlands/Birmingham	GIDS Southeast/London	GIDS Southwest/Bristol/Exeter	Grand Total
CAMHS / CYP Mental Health	47.34%	44.44%	50.43%	53.02%	48.58%
GP Practice	41.85%	46.27%	37.93%	36.20%	40.68%
Children's or Council Service/Local Authority	X	X	X	X	3.27%
Voluntary sector	X	X	X	X	3.09%
School	X	X	X	X	1.85%
Paediatrics	X	X	X	X	1.57%
Healthcare provider - other	X	X	X	X	X
Healthcare provider - private	X	X	X	X	X
Other	X	X	X	X	X

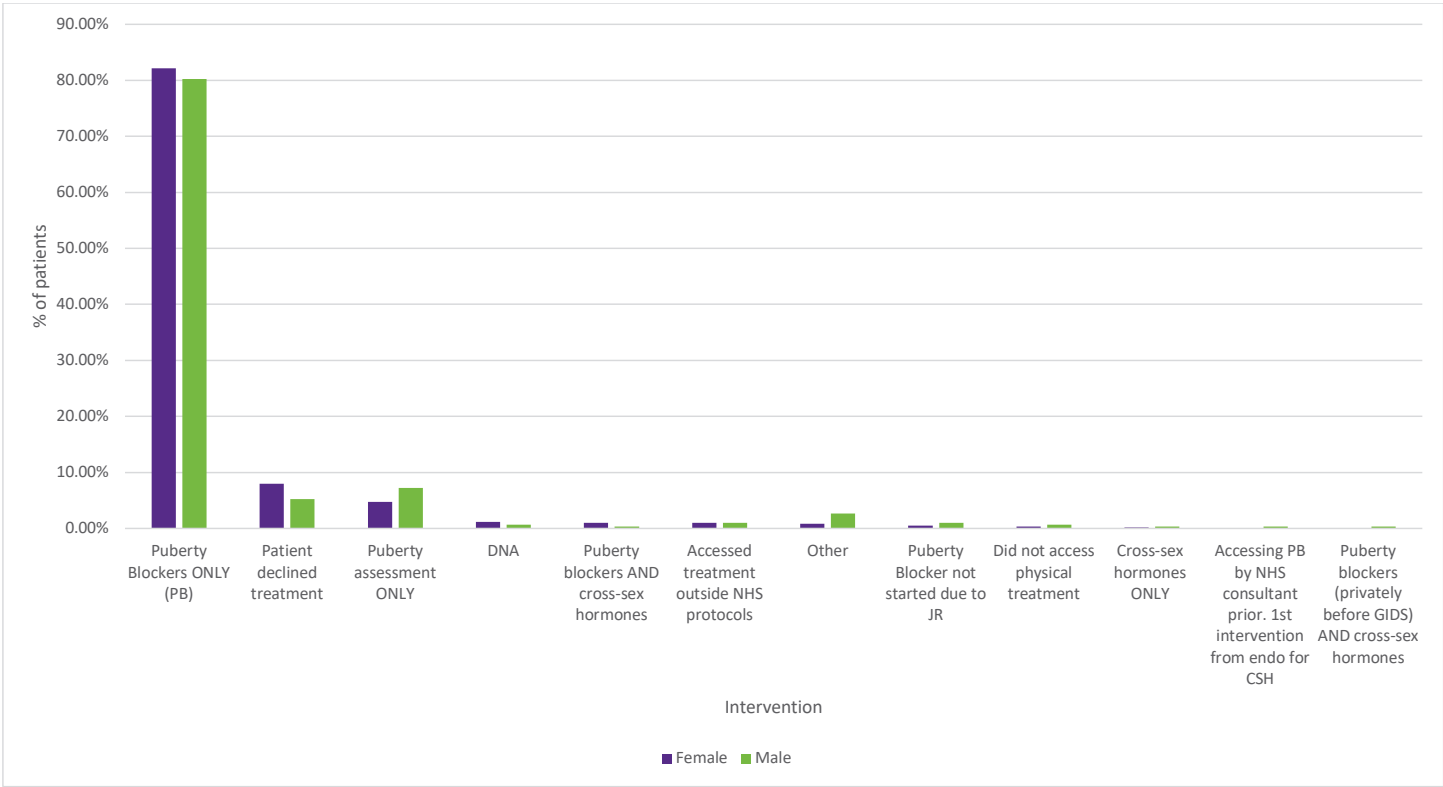
Appendix 3. Distribution of total number of appointments within the GIDS prior to referral to endocrinology, by GIDS team



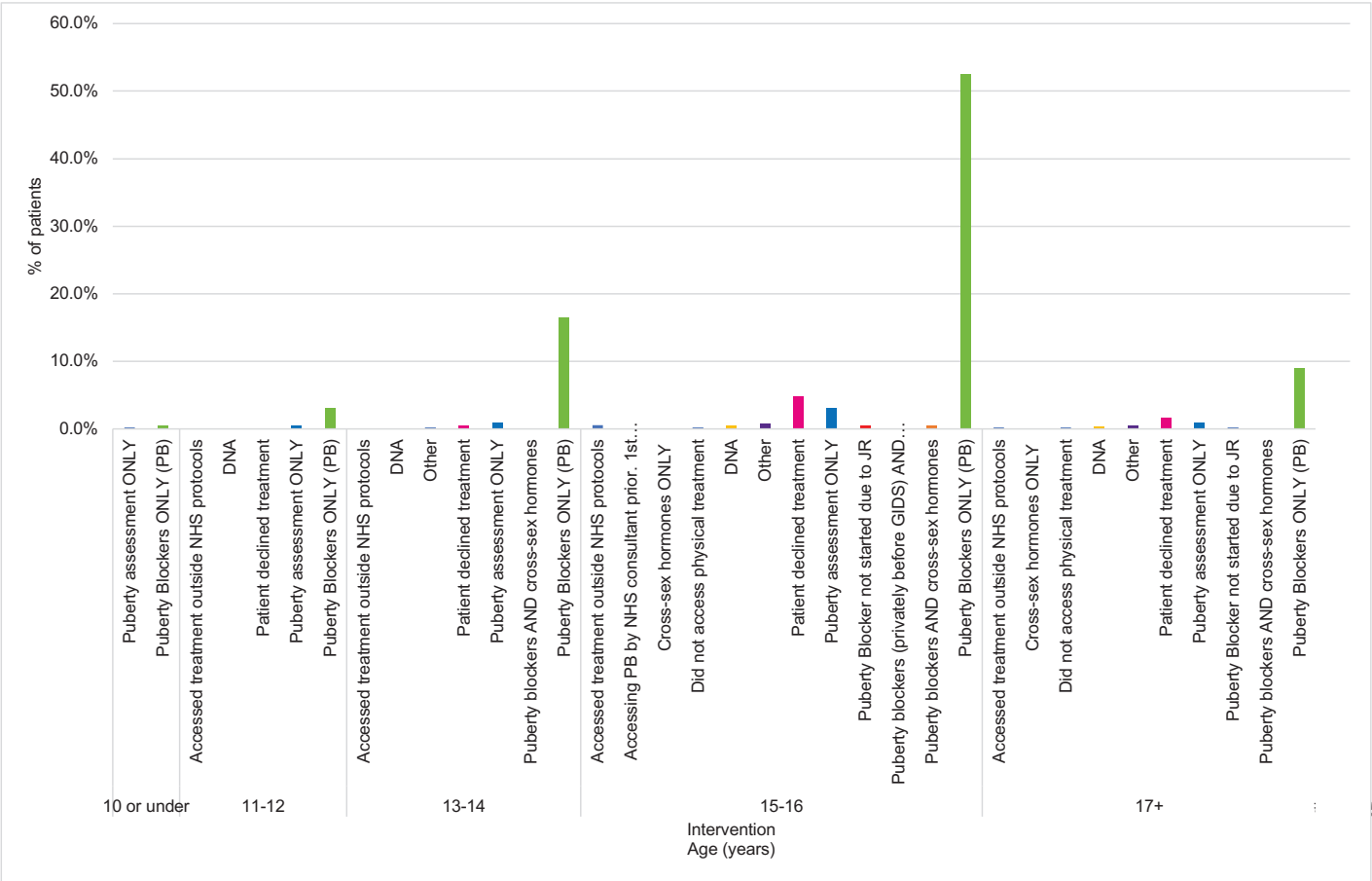
Appendix 4. First intervention for patients referred to endocrinology, by GIDS team



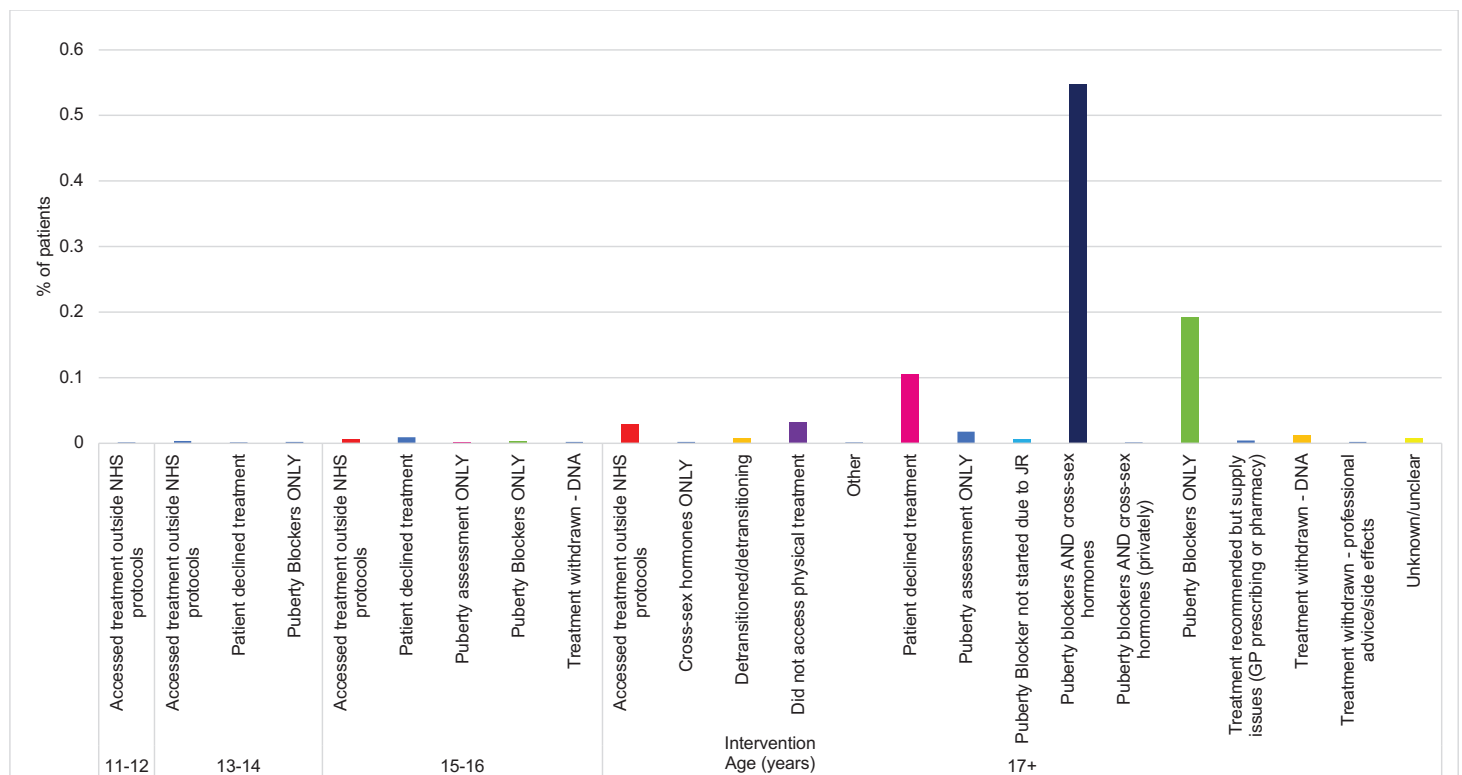
Appendix 5. First intervention following endocrinology referral by natal gender



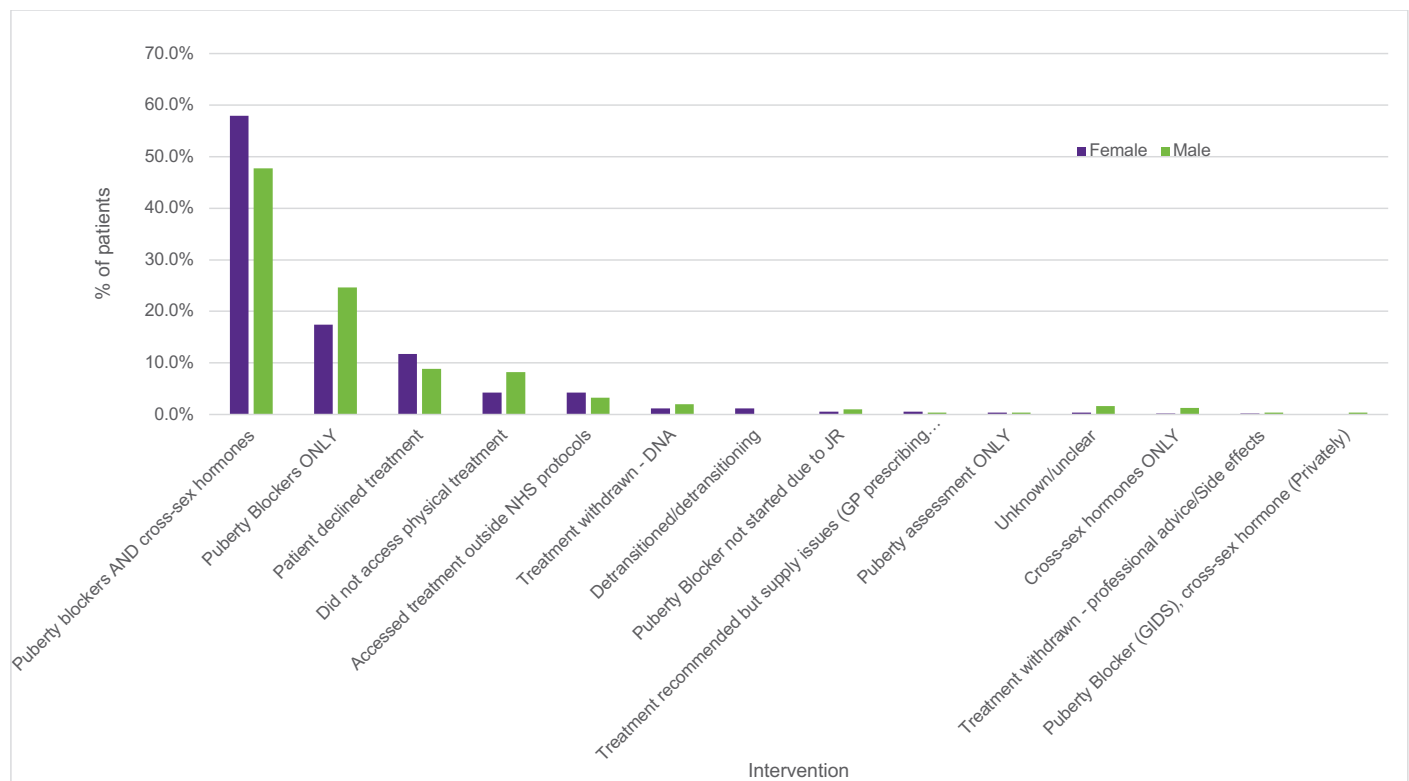
Appendix 6. First intervention following endocrinology referral by age as percent of all patients referred



Appendix 7. Final intervention at discharge from GIDS following endocrinology referral by age as percent of all patients referred



Appendix 8. Final intervention at discharge from GIDS for patients referred to endocrinology, by natal gender



Appendix 9

Date:

Summer 2023

Report:

Learning points from the Gender Dysphoria Multi-Professional Review Group (MPRG).

Provided by: Professor Judith Ellis OBE, Chair MPRG and all members of the MPRG.

Submitted to: John Stewart

Section	<u>Topic</u>	Page numbers
A	Background	2
B	MPRG	2-3
C	MPRG Outcome Options	3
D	MPRG Membership	3
E	MPRG Model of work	3-4
F	MPRG Activity	4
G	Outcomes	4-5
H	GIDS, Tavistock & Portman NHSFT Response	5
I	MPRG Reflections	5-14
J	MPRG Impact	15
K	Moving Forward	15
L	MPRG Summary learning points	15-16

A. Background:

MPRG was established in August 2021 on an interim basis following CQC and NHSE concerns about GIDS.

CQC concerns included:

- Lack of clearly demonstrated and validated assessment tools for staff
- Lack of structured plans for care,
- Decision-making records unclear,
- Teams not always including all specialists necessary for good care,
- Informed child consent procedures not in line with NHS & GMC requirements
 - Consistency of records on competency, capacity and consent
- Inadequate safeguarding

B. MPRG:**B. i: GIDS review**

In summer 2021 a decision was taken for NHSE to establish a Multi-Professional Review Group to decide, if assured, whether appropriate process (according to the NHSE Standard Operating Procedure (SOP)) had been followed in order for the requesting clinician to arrive at a request to refer a child (under 16 years) for consideration of endocrine treatment. This included assurance that:

- the assessment and diagnosis are compliant with requirements of the Service Specification
- the child meets the eligibility criteria for referral to the endocrine clinic
- there is a written record of consent by those with parental/guardian responsibility
- clinicians have explained all necessary information to the parents/guardians, in a balanced way, with opportunity for discussion, and parental/guardian concerns have been addressed appropriately, with evidence that they have understood
- there has been opportunity for parents/guardians to discuss with GIDS clinicians without the child being present
- the capacity or ability of a child's parents/guardians to give consent has been explored and confirmed
- there is a written record of consent by the child
- clinicians have explained all necessary information to the child, in an appropriate and balanced way (tailored to developmental needs (e.g. age, ASD, ADHD, etc)), with opportunity for discussion, and the child's concerns have been addressed appropriately, with evidence that they have understood
- there has been opportunity for the child to discuss with GIDS clinicians without the parents/guardians being present
- the capacity or ability of the child to give consent has been explored and confirmed
- child safeguarding and child protection issues have been fully considered by the Tavistock clinicians in line with their statutory and professional duties.

B ii Endocrine Audit:

For the endocrine clinics, which were rated 'good' by the CQC, the MPRG retrospectively undertook a 'light touch' audit of a sample of endocrine assessments (puberty rating and baseline hormone profiles), to confirm confidence in the whole pathway of care.

This supports assurance to Trust executives that a consistent decision-making process is being followed.

C. MPRG Outcome Options:

There are two outcome options available to the MPRG:

- agree that the appropriate process has been followed and assurance given on all counts
- agree that there is insufficient information on which to be assured on one or all of the elements (see 2.1)

If not fully assured, the MPRG seek and the GIDS team are asked to provide, further information. Where this is the case the MPRG via the Chair clearly outlines the information required /action to be taken and the timeline for receipt of the additional information. Further information supplied is considered by the Chair and if necessary, by specific or all MPRG members, and a decision re assurance taken and communicated to GIDS.

N.B. MPRG reports an assurance that a process has been followed – it does not endorse or refuse treatment.

D. MPRG Membership:

- Chair
- Consultant Child & Adolescent Mental Health Psychiatrist
- Senior Paediatric Nurse with Safeguarding experience
- Professor of Paediatric Endocrinology
- Consultant Paediatrician
- Consultant Psychologists x 2
- Senior Social Worker
- Youth Development Worker (In initial cases)

Management and administrative support and Secretariat are provided by the Clinical Effectiveness, Specialised Services team at NHSE

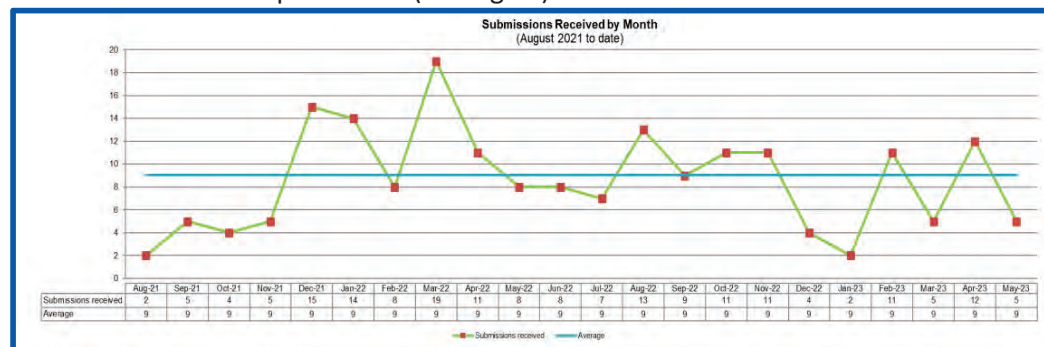
E. MPRG Model of work:

- MPRG meet via an online meeting platform for 4 hrs each week.
- Meetings require 4 members to be quorate (Meetings have never been cancelled due to being inquorate)
- All received documentation is redacted for family names and personal identifiable information
- Meetings are cancelled if no cases have been submitted by the Tavistock or if the NHSE secretariat identify that further redaction or clarification is required before the case is presented to the MPRG for consideration
- Submissions to MPRG have for each case been between 90 to 210 pages in length and vary in quality, from succinct to disorganised and repetitive.
- One MPRG member leads on each case but all members read and consider the complete file.

- Discussions are challenging and probing, remaining professional, respectful, and sympathetic to both the children, families and professional colleagues. As the clinical material can be distressing, the Chair and group seek to maintain psychological safety for participants during the discussions.
- Discussions/ decision documents are typed up by NHSE Admin team and direct quotes from the documentation are used to illustrate points made.
- The Chair reviews and signs off all decision documents.
- All case documentation received is deleted by MPRG members after the weekly discussion and by the Chair once the decision document is signed off.
- N.B. Although in their terms of reference the MPRG are allowed to meet the children and their families, in addition to accepting the importance of client confidentiality and the need for members anonymity, the MPRG have never considered that it would be appropriate or helpful to request a one-off face to face meeting between the young people/family and unfamiliar MPRG members. MPRG have however occasionally required GIDS staff to have additional meetings with the child/family to provide assurance required, particularly around assurance that the child's voice has been heard.

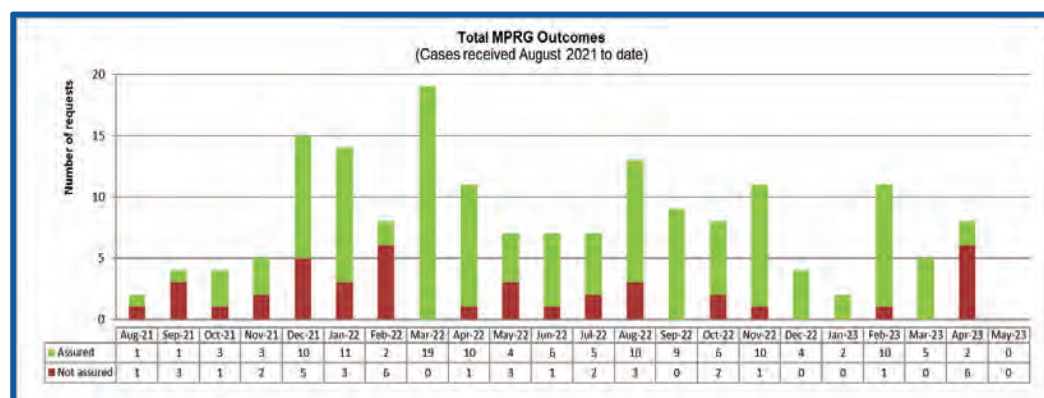
F. MPRG Activity:

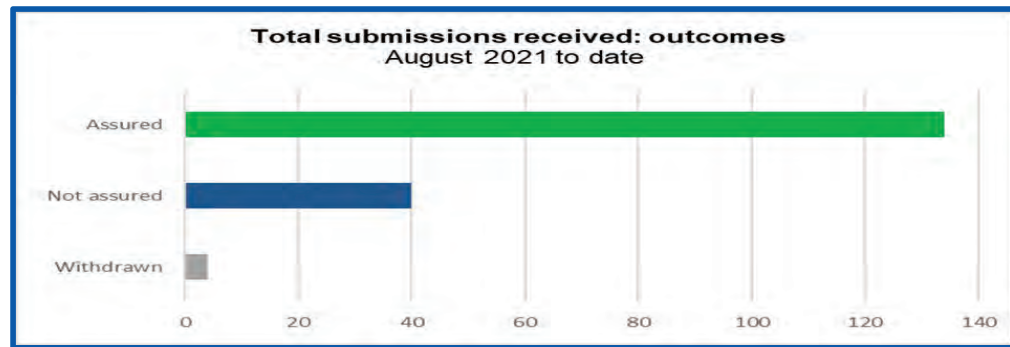
- Submissions received per month (average 9)



G. Outcomes:

- By July 2023 there have been 179 outcome decisions.





- N.B. The MPRG have always met the 20-day review timeline (100%) with a mean time of 10 days.

H. GIDS, Tavistock & Portman NHSFT Response

There have been mixed responses from the GIDS and T & P NHST leadership to the role of the MPRG, shared directly and indirectly with NHSE and the Chair.

Some responses were of expressed relief and indicated that the MPRG process is supportive and that an independent review is valued.

Some responses have, however, included:

- annoyance, due to the increased workload (preparing submissions)
- feeling professionally insulted and not accepting of the need for independent professional review
- the view, sometimes directly shared with children and families, that the MPRG process introduces an additional unnecessary and delaying step in the process of referral to Endocrinology.
- rejecting the need to improve safeguarding practice

I. MPRG reflections

(This section provides overall reflections from the MPRG with no numerical analysis possible as all documents are deleted immediately after a decision document is signed off by the Chair). It is worth noting that the vast majority of documentation provided appears disjointed and unstructured and this makes it vital for the MPRG to examine every page submitted to ensure vital points are not overlooked.

Once documentation is received the MPRG consider the following:

1. Age:

NHSE have analysed the age of children referred to MPRG, at various stages of the patient journey:

	Youngest	Oldest	Average
Age at time of referral to GIDS	4 years 1 month	12 years 5 months	8 years 5 months

Age at first GIDS appointment	5 years 1 month	14 years 6 months	9 years 9 months
Age at submission to MPRG	12 years 0 months	15 years 9 months	14 years 3 months

	Shortest	Longest	Average
Time from initial referral to GIDS to submission to MPRG	3 years 1 month	9 years 1 month	5 years 6 months

- 1.1 The MPRG are fully aware of the difficulties and delays children and their families experience accessing health services, the prolonged GIDS patient journey, including time from initial referral to GIDS to a case being considered by the MPRG. Frustration is evident in the statements received from children and families
- 1.2 MPRG work as a team to try and ensure that the MPRG review does not unduly add to their frustration. The MPRG have always met the 20-day review timeline (100%) with a mean time of 10 days.
- 1.3 The MPRG have noted that assigned girls present to GIDS, and therefore to MPRG later than assigned boys, with the start of menses often the main contributing factor for the increase in desire for medical intervention
- 1.4 Where sexuality was discussed, most cases are of same sex, opposite-gender attracted children. An increasing number of young people described themselves as 'straight' or 'not trans', just a boy/girl.
- 1.5 All cases referred had met or surpassed the 6 GIDS sessions required in the SOP and in many cases children and families had been seen far more frequently.
- 1.6 What has not been clearly evidenced is how thoroughly '*gender identity and consideration of different options for gender expression*' and '*different treatment options/choices*' (SOP) were explored.
- 1.7 MPRG also have a concern that the period between referral and first appointment at GIDS (early-stage delay), has resulted in children and parents having already adopted an affirmative approach. In all but one case, social transition had commenced or completed. There is inconsistent evidence of the individual impact of social transition being explored with children and their families with GIDS tending to affirm the presenting social transition.

1.8 It appears to MPRG from the submissions, that in most cases children and parents were asking to progress on to puberty blockers from the very first appointment with GIDS (see section 3).

2. Physical Medical history:

The GIDS notes supplied to the MPRG rarely provide a structured history or physical assessment, however the submissions to the MPRG suggest that the children have a wide range of childhood, familial and congenital conditions. MPRG has not identified prevalence of specific physical diagnoses in the cohort, including differences in sex development (DSD).

2.1 In a small number of cases parents/ guardians were notably disappointed when an 'intersex' (DSD) diagnosis was not applicable to the child.

3. Gender journey

3.1 Assigned and current gender are identified to the MPRG.

3.2 It is noted by the MPRG that although the Cass interim report shows a large increase in assigned female to male cases this has not been reflected in the cases referred to the MPRG, which remain predominantly assigned male to female cases (NHSE analysis: From August 2021 to April 2023 MPRG had considered 49 Assigned Female cases and 117 Assigned Male cases).

3.3 Information about the child's gender journey is provided by GIDS and it is notable that until the child and family's first appointment at GIDS they have received little, if any, support from health, social care, or education professionals. Most children and parents have felt isolated and desperate for support and have therefore turned for information to the media and online resources, with many accessing LGBTQ+ and GD support groups or private providers which appear to be mainly affirmative in nature and children and families have moved forward with social transition.

3.4 Evidence of adequate exploration of gender identity journey is, therefore, difficult to assure as prior to MPRG consideration, many children have already fully socially transitioned. Most children have changed their names by deed-poll, attend school in their chosen gender and some have changed NHS numbers and passports. (See section 1.4). This history/journey is rarely examined closely by GIDS for signs of difficulty, regret or wishes to alter any aspect of the child's gender journey trajectory.

3.5 Using the documents presented by GIDS to the MPRG it is difficult to assess whether GIDS clinicians have taken an exclusively affirmative stance with the child and family.

3.6 Although a diagnosis of gender dysphoria *DSM-5* (children with consideration of adolescent and adults criteria for older children) is required by the SOP, the MPRG acknowledges that the *DSM-5* diagnostic criteria for gender

dysphoria has a low threshold based on overlapping criteria, and is likely to create false positives, i.e. young people who do not go on to have an enduring cross-sex gender identity may have met the criteria in childhood and early – mid childhood social transition may be influential in maintaining adherence to the criteria. Sex role and gender expression stereotyping is present within the diagnostic criteria e.g., preferred toys, clothes etc., not reflecting that many toys, games and activities for children and young people are less exclusively gendered than in previous decades. Retrospective assessment of distress and poor social functioning in a child or young person is fraught with difficulty.

3.7 As stated in 1.4 and 3.4 in the cases considered by the MPRG social transition has occurred. The MPRG is concerned that some children are continuing to live in stealth, with a common, genuine fear of “being found out”, suffering rejection either due to having not taking friends in to their confidence (with holding personal information regarding biological sex or specific sex based experiences), or due to trans-prejudice or phobia. . MPRG observe that living in stealth appears to increase a child’s level of stress and anxiety with resultant behaviour and mental health problems, including social withdrawal, with children becoming increasingly isolated, including resorting to home-schooling or tutoring, with some distressing descriptions of children rarely leaving their house.

3.8 MPRG have noted both excellent examples of good practice by families and schools in supporting children as they socially transitioned and some worrying examples of unhelpful practices and restrictions.

4. Mental Health:

4.1 Some of the children have had contact with CAMHS at some stage on their GD journey or are on a long waiting list for a CAMHS review (mention of 2-6 year waiting times). In most cases once GIDS were engaged in care, CAMHS were no longer involved. However, MPRG note some examples of great quality collaborative parallel working with CAMHS, school-based therapists or private counsellors.

4.2 The most prevalent mental health issues appear to be social anxiety and the threat of self-harm (including children threatening to cut off their penis), with many families reporting actual self-harm behaviour and injuries having occurred (e.g. eating disorders, cutting, etc.).

4.3 A considerable number of children appear to express suicidal thoughts, particularly at the first signs of puberty, but there has been limited evidence in the MPRG cases of suicidal behaviour.

5. Neurodevelopmental:

5.1 In the majority of cases considered by the MPRG, there is mention of possible ASD or ADHD traits or diagnoses.

5.2 Confirmation of appropriate and complete assessment is rarely available, and there remains some confusion as to how or whether formal diagnosis has been made and whether formal assessments have used sex or gender related psychometric tools to assess children with gender dysphoria and neurodevelopmental concerns. For example, the continuous performance test (Qb) used as part of the ADHD assessment has a sample of children identified at birth as male and a sample identified at birth as female. While the correct use of pronouns and names is key, this is a computer-based programme which does not provide a sample of children with gender dysphoria.

5.3 There appears to be a prolonged waiting time from identification of neurodivergent traits to formal assessment (2- 4 years).

5.4 It is of most concern that where a neurodevelopmental disorder is suspected, but not confirmed because a formalised assessment is not available, there is often limited evidence of GIDS professionals ensuring that options and care has been explained to ensure the child's understanding so that valid consent can be obtained. There was often insufficient evidence of how GIDS make decisions made about the use of appropriate assessment tools for children with additional needs.

6. Psychosocial

6.1 No genograms / family trees were made available and it was difficult to ascertain family structure and relationships from the documentation provided due to redaction.

6.2 The psychosocial background of the children considered by MPRG was rarely uncomplicated and usually complex. MPRG were frequently concerned about the lack of evidence of professional curiosity as to how a child's specific social circumstances may be impacting on their Gender Dysphoria journey and decisions, for example; physical or mental illness within the family, abusive or addictive environments, bereavement, cultural or religious background, etc..

6.3 The children in many of the cases reviewed by the MPRG were residing with one parent but in most cases, there was shared parental responsibility and GIDS had made marked effort to engage with both parents.

6.4 MPRG members considered the impact that each child's home psychosocial situation may have been having on their gender journey, for example, their exploration of options, affirmative or transphobic beliefs and experiences and any possible coercion, family to child or child to family.

6.5 MPRG found it extremely useful to receive external organisation reports, for example from a child's school, that gave some indication of a child's social and psychological state e.g. peer group interactions and relationships and

acceptance, expression of gender identity and wellbeing, school attendance, academic achievement. Furthermore, there were frequent occasions where school reports were significantly out of date.

6.6 MPRG were particularly concerned and interested to understand why a child might be living in stealth and/or was socially isolated, for example being home schooled, taking into account the difficulties enhanced by Covid restrictions. The evidence provided by GIDS frequently failed to provide adequate explanation.

7 Multi-professional Teams

7.1 The Multi-professional nature of the MPRG is a definite benefit with all professionals approaching consideration of the same case from a particular expert standpoint, with constructive challenge from interested and supportive colleagues leading to comprehensive clarity in overall MPRG decision making.

7.2 The Pre MDCR meetings introduced by GIDS over the last year has gone some way to provide this multi-professional consideration of cases and notes from this meeting often identify the same concerns as are raised by the MPRG. The meeting notes from MCDR frequently show that questions or actions were raised, but it is very rare that evidence of answers or resolution of the action is documented.

7.3 It was rare to see appropriate referral of cases for consideration at Complex Case Panels and where this occurred the multi-professional membership, conclusions and actions were unclear.

7.4 A recurrent problem noted by the MPRG was the lack of routine endocrinology involvement during the GIDS process.

7.4.1 A paediatric endocrinologist would have been able to ascertain whether the child has entered puberty and if the Tanner stage reached met the SOP requirement for referral to endocrinology.

In most cases puberty staging depended upon child and family reported changes being interpreted by professionals with no endocrine training. Essentially, the GIDS team was undertaking the layperson's approach to when puberty starts. In summary: Male puberty was based on voice 'breaking' (in reality this occurs between Tanner stages 3-4), some hair 'down below', spontaneous erections described by a variety of terminology, squaring of the shoulders, some facial hair growth, height growth spurt. A key early sign of the onset of male puberty is the increase in testis volume from 3ml to 4ml. Clearly this can only be confirmed by examination. Female puberty was based on 'chest development', aka breast development which an early sign of puberty in girls (equivalent to the testis volume sign in boys). However, the 'chest development' may not represent true breast enlargement but be due to fatty tissue from obesity. Hair 'down below' is akin to pubic hair growth. The definitive marker of puberty well advanced in girls is the onset of menses. This is a late event female puberty, occurring after the growth spurt and equivalent to Tanner stage 4. There is no equivalent in boys, although

nocturnal 'wet dreams' would be approximately the same puberty state i.e., late, and well beyond the Tanner 2 stage.

The GIDS members were also involved in counselling about puberty blockers work, their potential side effects, and the need to be judicious in their use in assigned males in order to optimise penile growth to use for subsequent genitoplasty. The team was also involved in detailed discussions about future fertility and technical aspects of gamete preservation.

7.4.2 A recurrent concern for the MPRG was the inadequacy and on occasions inaccuracy of answers given to children and their families by GIDS and their failure to correct child and parental misconceptions about puberty, puberty blockers and hormones. These misconceptions were often evident in the Child and parental statements made at the end of the period of assessment after which the GIDS service had deemed the child appropriate for referral for physical intervention. Examples included:

- a. Failing to explain that puberty blocker use in GD cases is unlicensed and off label
- b. Correcting parents when they quoted use in GD to be the same as licensed use in precocious puberty
- c. Covering known side effects but minimising that a lot is still unknown about short- and long-term side effects,
- d. Discussing the permanent and reversible impact of puberty blockers on fertility,
- e. Not sharing figures around how many children who start puberty blockers go on to hormone treatment.
- f. Rarely is a possible pause or slowing of psychosocial development discussed in relation to the use of puberty blockers.

7.5 MPRG were always provided with a copy of a completed Hormone Blocker Checklist and a Hormone Blocker Referral consent form signed by the child, parent/guardian and GIDS clinician. It was noted that although counterintuitive in most cases the checklist was completed after the consent form.

It would have been far more reassuring if in all cases an endocrinologist had been involved in the completion of this checklist, and early involvement of an endocrinologist would streamline the patient journey as currently after referral a further checklist is completed and a further consent for treatment form is signed by the child and parents and the prescribing endocrinologist. An endocrinologist as a member of the GIDS multi-professional team could ensure informed consent in relation to puberty blockers as well as assuring themselves as the prescriber, of the gender dysphoria diagnosis.

8 Private Puberty Blockers (PPB)

8.1 An increasing concern for the MPRG is the number of children who have commenced private puberty blockers (PPB).

- 8.2 Private providers do not follow the prescribing, administration and investigation/ monitoring protocols agreed and followed by the NHS.
- 8.3 It is apparent that children and parents seek this option due to their frustration with NHS delays and that parents believe that they are acting in the 'best interest' of their child.
- 8.4 When the MPRG was established in 2021 the GIDS team negated their responsibility to discuss any clinical concerns about private treatment with children and families but have since accepted their responsibility as stated in the SOP to discourage families from accessing treatment that is not being delivered according to NHS protocols. GPs have also been advised against prescribing these unlicensed, off label drugs and PPB's are more likely to be delivered by post from overseas.
- 8.5 As children and families face the increasing worry of further delay due to changes to GIDS provision, MPRG are now having cases presented where parents have, or are threatening to commence PPB's even though the treatment is not as identified in NHS protocols, the families have received no information about side effects or the impact on fertility, and no or limited baseline tests (e.g. bloods, dexamethasone scan) have been done. It is suspected that this is an attempt by parents/guardians to put pressure on the MPRG and NHS that for the child's safety they should be immediately referred for NHS treatment. This safety argument is particularly challenging in cases where PPB's were commenced with temporary charity funding which has now been withdrawn, and the cessation of treatment that the child believes is helping would potentially cause the child significant distress.

9 Consent

- 9.1 MPRG confirm that consent for referral to endocrinology has been signed and dated by the child, parent/guardian and clinician and generally this has been easy to locate in the documentation, with the MPRG required to accept redacted signatures are the child's and the signature of the parent/s/guardian/s who hold parental responsibility, and the unknown professional's signature.
- 9.2 For assurance the MPRG consider all information provided to confirm that: Clinicians have explained all necessary information, giving opportunities for discussion, confirming understanding, and that concerns have been addressed appropriately including:
- Exploration/ consideration gender identity/ expression and treatment options
 - Purpose and nature PBs: advantages and disadvantages
 - Evolving research and understanding of the known implications and short and long term consequences of treatment' PLUS many unknowns.
 - Fertility treatment options
 - 98% expectation progress to hormone treatment, surgery, etc
- 9.2.1 For children, clinicians are required to explain the information in an appropriate and balanced way, tailored to the child's developmental needs, which includes neurodevelopmental needs.

This was an area carefully considered by the MPRG and although the range of approaches to explain information and to confirm understanding directly used by GIDS in sessions has generally been impressive, in a number of cases additional information was requested by the MPRG.

- 9.2.2 As described in 1.4 and 3.4 due to the delay in access to GIDS, and the affirmative stance already evident at first appointments, the MPRG carefully sought evidence of consideration of gender identity and treatment options.
- 9.2.3 Fertility treatment options were generally well covered, with appropriate consideration of age-related decision making but by non-specialists in this area. However, the discussion of childhood interruption of the development of organs that reach mature function in adulthood is rarely evidenced.
- 9.2.4 Advantages and disadvantages of PB's were generally covered but the MPRG often requested further confirmation that evolving research, unknown consequences and the 98% expectation of progress to hormone treatment had been adequately discussed and understood.
- 9.2.5 As stated in 7.4 there was concern from MPRG that the absence of endocrinology input did raise concerns about adequacy of some of the information given and handling of questions and the addressing of concerns before the signing of the consent for referral form although it is acknowledged that a further consent form is signed once a child is under endocrinology and this consent is audited as part of the MPRG light touch endocrine audit

9.3 The MPRG looked for confirmation of the child and parent/guardian's capacity and ability to consent, that the parents/guardians and children:

- Understood and retained relevant information long enough to make a decision
- Used the information as part of the process of making a decision
- Were able to communicate decision to others
- And that there was no evidence of coaching /coercion of parents/child

9.3.1 MPRG were mainly reliant on the GIDS clinicians' assessment of the parent guardians' capacity and ability to consent.

9.3.2 Written statements from parents were provided. Many were moving and helpful, but some were used by parents to praise GIDS staff and to complain about the MPRG process. Many betrayed grave misunderstandings of the nature of gender dysphoria and the outcome of physical treatments.

9.3.3 MPRG occasionally had concerns that parents were being encouraged to move forward to consent by others, but this was difficult to confirm.

9.3.4 There were occasional cases where the parents appeared to be fearful of what they anticipated might be their child's response if they did not consent, (for example child threats of self-harm, suicide, or aggressive behaviour). On these occasions the MPRG carefully considered the notes of meetings when parents were seen alone.

9.3.5 MPRG were provided with an impressive array of resources to demonstrate the children's understanding and exploration of information including verbatim transcripts of discussion with children. While noting that

clinical practice evolves over time and many of the cases presented were seen over an extended period, MPRG were sometimes surprised to see the marked differences in approach and clinician choice of assessment and information giving materials.

9.3.6 In an attempt to hear the child's voice children were asked to write a short statement for MPRG. A few were extremely helpful and informative, but most were extremely brief and unhelpful and on occasions there was suspicious concern due to the language used that they had been rehearsed, written, or dictated by others. Often they included worrying misunderstanding of the outcome of physical interventions.

9.3.7 School reports, when thoughtfully completed were extremely useful in confirming whether the child had capacity and ability to consent.

9.3.8 If the MPRG were unconvinced that they were hearing the child's voice, or if there was concern that there may be coercion from others, the notes from the meetings when the child had been seen alone were carefully considered and on a number of occasions, especially if the child had not been seen alone for some time (e.g. for over a year), the GIDS team were requested by MPRG to organise a 1:1 review and update with the child and resubmit notes from this meeting to the MPRG.

10 Safeguarding & Child protection

When the MPRG began reviewing cases the Tavistock team were unwilling to comply with MPRG safeguarding reporting requirements, but this situation has been partially resolved.

10.1 The MPRG now see Confirmation from Social Services as to whether at the point of referral to the endocrine clinic the child is the subject of a statutory order e.g. a current Child Protection Plan or a Child in Need Plan.

10.2 A Tavistock Risk and Safeguarding assessment form is included in documentation received by the MPRG which is meant to indicate if GIDS are aware of any non-statutory safeguarding concerns including any that have been raised by any health, education, police or social care professionals involved in the child's care.

Although very occasionally a TRSA form is continuously and comprehensively completed, in most cases it has been completed just before the submission is sent to the MPRG and is incomplete when considered alongside issues noted by the MPRG whilst reviewing documentation received. Examples of issues identified by the MPRG include increased psychosocial vulnerability (including complex family relationships/situations/illness/addiction/domestic abuse), transphobic bullying, online abuse/ grooming, isolation, self-harm, suicidality, etc.)

Incomplete forms are returned to GIDS for reconsideration and resubmission.

10.3 MPRG continue to be very concerned about the GIDS teams lack of apparent professional curiosity or concern in relation to risk and safeguarding.

J. MPRG Impact**Positives:**

- When established it was estimated that around 4,000 cases were being prepared by Tavistock GIDS for referral to the endocrine service. The MPRG have only received around 180 cases for review, and it is likely that these were cases that the GIDS team considered ready for referral. As shown in section G MPRG were not assured on all counts in 42 of these cases and additional information and action was requested prior to reconsideration. 2 of the 42 cases were withdrawn, 5 are still awaiting resubmission but in the remaining cases further information provided was found to be sufficient to provide assurance on all counts, allowing referral to endocrinology. The figure unknown to MPRG is the number of the remaining 3,820 cases originally stated to be in the system were not submitted to the MPRG due to MPRG requirements for assurance.
- Safeguarding practice has been transformed and strengthened.
- Vast amount of learning to inform Cass Review and support establishment of new centers

Perceived negatives:

- Further perceived delay due to MPRG process (NB MPRG achieved 100% compliance with NHSE agreed timeline)
- GIDS clinicians spending time preparing documentation for the MPRG, time that could have been spent with patients
- NHSE budget required for MPRG activity

(These were all unavoidable as required to deliver the NHSE brief)

K. Moving forward

The MPRG assure GIDS compliance with the SOP in place in 2021. When a new SOP and Service Specification are agreed and new services are established MPRG will be stood down. MPRG members envisage that the service provider's internal governance structures will have the oversight and be responsible for monitoring the quality and functioning of the service against the new service specifications standards and KPI's, with the opportunity for internal and cross-provider safe, respectful and supportive peer review.

The MPRG team members could be called upon to provide a supportive, advisory role as new services are developed and stabilised.

L. MPRG summary learning points:

- a. Essential need for early outreach, including possible direct and indirect support to parents with flexible support for the gender dysphoric child
- b. Develop first point of access support to help explore *gender identity and consideration of different options for gender expression*.
- c. Improve on *DSM-5* diagnostic criteria Acknowledgement that a child meeting diagnostic criteria (*DSMV* or *ICD 11*) may reject a cross sex gender identity in later years
- d. Need A full psychosocial assessment

- e. **Need to increase the availability of ASD or ADHD assessments appropriate for age and gender identity, and for the powerful platform developed in this process to be used to ensure that wording and tools can fit all gender and sexual identities.**
- f. **Prioritise hearing child's voice with facility for a developing supportive conversation as the child learns about the complexities of cross-sex gender expression**
- g. **Liaise with schools, directing them to information and offer consultation/ support to staff**
- h. **Adequate safeguarding and risk management**
- i. **Each professional act within their area of expertise**
- j. **Endocrinologist part of GIDS MDT**
- k. **Different treatment option/choices explored 'including the advantages and disadvantages of treatments, risks and complications of management options including medical intervention. .**
- l. **Ensure the child, parents and guardians understand Information on the purpose, nature and physical consequences of puberty blockers (e.g., menopause, osteoporosis and impact on fertility) including consideration of unknowns (to include for example: wellness during period without sex hormones, sexual function, fertility, Psychosocial development and cognitive function), 'evolving research and understanding of the implications and long-term physical consequences of treatment', and that 98% of children would progress to taking sex hormones.**
- m. **parents/guardians should periodically meet GIDS clinicians without the child being present'**
- n. **child should periodically meet with GIDS clinicians without the parents/guardians being present'**
- o. **the capacity or ability of child and parents/guardians to give consent are adequately explored**
- p. **Standard Operating Procedures should be agreed and implemented, clearly outlining the decision-making process / pathways that need to be followed to lead to a referral decision, with built in check points.**
- q. **A structured decision-making framework should be followed and documented when considering each case**

This page is intentionally left blank

Appendix 10

Diagnostic criteria for gender dysphoria

DSM-5-TR diagnostic criteria for gender dysphoria

Gender Dysphoria in Children

The DSM-5-TR defines gender dysphoria in children as a marked incongruence between one's experienced/expressed gender and assigned gender, lasting at least 6 months, as manifested by at least six of the following (one of which must be the first criterion):

- A strong desire to be of the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender)
- In boys (assigned gender), a strong preference for cross-dressing or simulating female attire; or in girls (assigned gender), a strong preference for wearing only typical masculine clothing and a strong resistance to the wearing of typical feminine clothing
- A strong preference for cross-gender roles in make-believe play or fantasy play
- A strong preference for the toys, games or activities stereotypically used or engaged in by the other gender
- A strong preference for playmates of the other gender
- In boys (assigned gender), a strong rejection of typically masculine toys, games, and activities and a strong avoidance of rough-and-tumble play; or in girls (assigned gender), a strong rejection of typically feminine toys, games, and activities
- A strong dislike of one's sexual anatomy
- A strong desire for the physical sex characteristics that match one's experienced gender

As with the diagnostic criteria for adolescents and adults, the condition must also be associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Gender Dysphoria in Adolescents and Adults

The DSM-5-TR defines gender dysphoria in adolescents and adults as a marked incongruence between one's experienced/expressed gender and their assigned gender, lasting at least 6 months, as manifested by at least two of the following:

- A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics)
- A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics)
- A strong desire for the primary and/or secondary sex characteristics of the other gender
- A strong desire to be of the other gender (or some alternative gender different from one's assigned gender)
- A strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender)
- A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender)

In order to meet criteria for the diagnosis, the condition must also be associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

ICD-11: HA60 Gender incongruence of adolescence or adulthood

Gender Incongruence of Adolescence and Adulthood is characterised by a marked and persistent incongruence between an individual's experienced gender and the assigned sex, which often leads to a desire to 'transition', in order to live and be accepted as a person of the experienced gender, through hormonal treatment, surgery or other health care services to make the individual's body align, as much as desired and to the extent possible, with the experienced gender. The diagnosis cannot be assigned prior the onset of puberty. Gender variant behaviour and preferences alone are not a basis for assigning the diagnosis.

Exclusions:

Paraphilic disorders. Independent review of gender identity services for children and young people

ICD-11: HA61 Gender incongruence of childhood

Gender incongruence of childhood is characterised by a marked incongruence between an individual's experienced/ expressed gender and the assigned sex in pre-pubertal children. It includes a strong desire to be a different gender than the assigned sex; a strong dislike on the child's part of his or her sexual anatomy or anticipated secondary sex characteristics and/or a strong desire for the primary and/ or anticipated secondary sex characteristics that match the experienced gender; and make-believe or fantasy play, toys, games, or activities and playmates that are typical of the experienced gender rather than the assigned sex. The incongruence must have persisted for about 2 years. Gender variant behaviour and preferences alone are not a basis for assigning the diagnosis.

Exclusions:

Paraphilic disorders.

This page is intentionally left blank

Appendix 11



To: Dr Hilary Cass

NHS England
Wellington House
133-155 Waterloo Road
London
SE1 8UG

By Email

17 January 2024

Dear Hilary

INDEPENDENT REVIEW OF GENDER IDENTITY SERVICES FOR CHILDREN AND YOUNG PEOPLE – QUANTITATIVE RESEARCH PROGRAMME

With the Review now entering its final stages, I wanted to confirm an approach for handing over to NHS England certain aspects of the Review's research programme which will need to continue beyond delivery of your final report.

The Review's interim report highlighted that one of the challenges with understanding how best to improve NHS services for this group of children and young people is the lack of high quality data. A good example is that little is known about the medium and longer-term outcomes for children and young people who were seen by the Gender Identity Development Service (GIDS) at the Tavistock and Portman NHS Foundation Trust.

The Review's quantitative research programme, led by the University of York, aimed to improve the evidence and provide a better understanding of the treatment approaches for this population of children and young people. The research aimed to do this by tracking the journeys of young people who were seen by GIDS into NHS adult gender dysphoria clinics and the wider health system, to provide a population-level evidence base of the different pathways.

The Secretary of State for Health and Social Care granted an order under s22(5) of the Gender Recognition Act to enable data to be disclosed for a time-limited period for the sole purpose of the study. Like all NHS research, the study was subject to strict ethical and legal controls with an 'opt out' option for individuals who did not wish to have their data used as part of the study.

NHS England was fully supportive of the proposed approach; and the research received full approval from the Health Research Authority.

As you know, the study relied upon the seven NHS trusts in England that host adult Gender Dysphoria Clinics and the GIDS fully cooperating with the University of York in support of the research and NHS England wrote to the Chief Executives and Medical Directors of those organisations accordingly. Regrettably, it is now clear that despite the best efforts of the research team, the necessary cooperation from the clinical leads within those services has

not been forthcoming, and consequently the University of York has advised that as things currently stand, it is not appropriate to yet begin the next stage of the study.

This is clearly very disappointing and if left this way would represent a missed opportunity for the NHS to lead the way internationally in gathering high quality evidence that can, for the first time, present a better understanding of the longer-term outcomes for individuals who have received clinical or medical intervention for gender dysphoria / gender incongruence in childhood or adolescence.

I am sure you will agree that the NHS should not lose the opportunity to make further use of the statutory instrument that was passed by Parliament, which enables the collection of the data for use in an approved research study until 2027. As such, I am writing to confirm that NHS England will take over responsibility for realising the ambitions of the study and the NHS National Research Oversight Board for Children and Young People's Gender Services, chaired by Professor Sir Simon Wessely, is well placed to support us in this task. In your letter of 31st January 2023 you flagged that there would be a need for continued oversight of this work beyond the life of the Review, so I hope this approach reassures you that this aspect of the Review's work will not be lost.

As part of the handover process, I would be grateful if you could carefully document the work completed so far, including the circumstances that led the University of York to reach the conclusion that it was not yet possible to move ahead with the next stages of the research study. I would also welcome any specific recommendations you might wish to make for NHS England's consideration as we look to regain momentum with this important study.

I want to thank you for your vitally important ongoing work in improving services for this group of children and young people, and I look forward to receiving your final advice early in 2024.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'John Stewart', is positioned above the printed name and title.

John Stewart
National Director, Specialised Commissioning

This page is intentionally left blank

Appendix 12



Dr Hilary Cass
Chair
Review of GIDS for Children and Young People

John Stewart
National Director
Specialised Commissioning
NHS England and NHS Improvement

Sent by email

20 March 2024

Dear John

INDEPENDENT REVIEW OF GENDER IDENTITY SERVICES FOR CHILDREN AND YOUNG PEOPLE – QUANTITATIVE RESEARCH PROGRAMME

I am writing in response to your letter of 17 January regarding the Review's commissioned quantitative research programme, advising that, despite your welcomed efforts to obtain cooperation, most of the NHS gender clinics have refused to take part in this research.

It has not been at all straightforward trying to get this research off the ground. It has absorbed a considerable amount of time and attention from the Review and the researchers at the University of York, as well as from NHS England and the Department of Health and Social Care, all of which has delayed our work.

The study follows usual NHS research practice, it is only novel because of the sensitivity of the subject matter and the issue of changing NHS Numbers, which was overcome by the Statutory Instrument. It is therefore hugely disappointing that the NHS gender services have decided not to participate with this research. I am frustrated on behalf of the young people and their families that the opportunity to reduce some of the uncertainties around care options has not been taken.

Ultimately, the NHS is an evidence-based service with a responsibility to maintain the safety of those in its care. Understanding more about what support people who attended the Gender Identity Development Service (GIDS) received, and whether this helped them, will provide vital evidence to assist young people, their families, and the clinicians working with them to make informed decisions about the right pathway for them. As a single integrated

health service, which for the period in question had one provider of care for children and young people, this was a world leading opportunity to look at outcomes for c.9000 young adults and add to the evidence base.

We had hoped to have some early findings to inform the Review. However, as outlined in my letter to you of 31 January 2023, it had become evident that the full outputs from the study, including resulting peer-reviewed papers, would not be available in time to be published alongside my final report.

I asked that NHS England give consideration as to how the ambitions of this study could be realised beyond the life of the Review. I am grateful for your confirmation that the National Research Oversight Board will support this going forward.

To assist the Oversight Board, I attach detail on the circumstances that led the University of York to reach the conclusion that it was not yet possible to move ahead with the next stages of the research study (Annex A).

I look forward to submitting my final report and recommendations in the coming weeks. In the meantime, my recommendations on this specific issue are that NHS England:

1. Work with the University of York to take forward phase one of the data linkage study without delay.
2. Work with Department of Health and Social Care to mandate the data exchange from the clinics to facilitate this.
3. Undertake a case note audit of record keeping in the adult clinics to assess the feasibility of phase 2 of the data linkage study.

Yours sincerely



Dr Hilary Cass
Chair, Independent Review into Gender Identity Services for Children and Young People

Annex A - Data linkage study: Assessment, Management and Outcomes for children and young people referred to a National Gender Identity Development Service

- 1.1. Little is known about what happens to the children and young people who have accessed the Gender Identity Development Service (GIDS) in relation to the support and interventions they have received and their outcomes.
- 1.2. Whilst a considerable amount of research has been published in this field, systematic reviews conducted for this Review and internationally have demonstrated the poor quality of the published studies, meaning there is not a reliable evidence base upon which to base clinical decisions.
- 1.3. The Review has tried to plug this gap through its commissioned research programme, which included an ambitious data linkage study. The study approach was proposed by the University of York as part of its response to a national open procurement process.
- 1.4. The research study plans to use existing data held by the NHS - including data from GIDS, hospital wards, outpatient clinics, emergency departments and adult Gender Dysphoria Clinics (GDCs) - to track the journeys of all young people (approximately 9,000) referred to the GIDS service through the system to provide a population-level evidence base of the different pathways people take and different outcomes people experience.
- 1.5. This study aims to improve the level and quality of evidence on the treatment and care of this population of children and young people:
 - enabling the Review and the NHS to have a better understanding of the best treatment approaches for this population of children and young people;
 - ensuring clinicians had the best possible evidence when providing care; and
 - supporting children and young people and their parents/carers in making better informed decisions.
- 1.6. This research study offers a real opportunity to contribute to the international evidence base for this service area as it would access what is thought to be the single largest data set available for the presenting population.
- 1.7. Healthcare data on populations of children, young people and adults are routinely used to determine outcomes of care for the purpose of improving NHS services. This has not been the case for gender questioning children and young people – the aim is that this research would go some way to address this imbalance.
- 1.8. As with the other studies, [the study protocol](#) was subject to Research Ethics Committee (REC) and Confidentiality Advisory Group (CAG) processes prior to achieving full Health Research Authority (HRA) approval. These approvals were required before the study could commence.

- 1.9. It took over a year to gain the necessary approvals from the Health Research Authority's Research Ethics Committee and Confidentiality Advisory Group. While the methodology proposed for the research is not particularly unusual, the robust scrutiny and consideration the committees applied to the study was entirely appropriate given the sensitivity of the subject matter.
- 1.10. The approach to governance, data protection and confidentiality was consistent with other research undertaken by the NHS or when using NHS data. In addition, the research team was careful to ensure compliance with any special rules and sensitivities that may apply to information about transgender people, including those with Gender Recognition Certificates (GRCs), as in some cases the individuals whose data would have formed part of the research would have obtained a GRC.
- 1.11. The Gender Recognition Act (GRA) creates an offence of unlawfully disclosing information about individuals who have obtained a GRC. To ensure an offence could not be inadvertently committed, a 'statutory instrument' was passed through Parliament, permitting the handling of information about people with GRC for the very limited purpose of this research. This was required before REC and CAG would consider the research protocol, and before NHS England and the NHS Data and Analytics team would support the research.
- 1.12. While the Statutory Instrument took some time to pass, and the public reporting of this caused some concern among the trans and gender diverse community, it was important to do this so that as full a picture as possible was established through the study, and the data of people, who potentially have some of the most successful outcomes, was not automatically excluded.
- 1.13. In addition, the ethics approval process required the researchers to seek the views of those affected to show that there was a need for the study and that patients were content with the planned approach.
- 1.14. The PPI sessions found that, while some participants were initially sceptical about the research based on what they had heard in the press or on social media, when the study was explained the majority understood the approach, the reason for the research and how their data would be used. Some participants were surprised that outcomes were not routinely collected and measured, and there was generally a high level of support for the research.
- 1.15. Another important consideration was the need to provide the opportunity to opt out for those that did not wish for their data to be included. Because the University of York needed to look at a large number of records, it was not feasible to get individual consent. Instead, individuals not wishing to take part in the study would have been able to opt out via their clinical team, based at GIDS or one of the seven adult NHS Gender Dysphoria Clinics (GDCs). The opt out period was to be the first step in the study, to be followed by a standard secure transfer of basic demographic data.

- 1.16. Despite the rigor applied in meeting HRA requirements, the University of York received significant opposition from all but one of the adult GDCs including refusal to facilitate the initial opt out stage of the study. The concerns cited by the adult GDCs included:
- ethical considerations, which had already been considered and met through the stringent and lengthy HRA process to achieve the relevant approvals;
 - availability of/access to data, although the initial stage of the study asked for basic demographic data, which would not be an unusual request for NHS research and raises questions in relation to GDC record management; and
 - resource impacts, even though the GDCs are contractually required to take part in research and appropriate costs would have been met by NHS England.
- 1.17. This was disappointing as at an early stage of protocol development, the research team had met with representatives from three of the clinics to discuss the proposed approach.
- 1.18. Additionally, prior to final REC and CAG approval, a workshop was held with the adult gender clinics to talk through the study, data requirements and technical aspects and to identify any logistical challenges, where some concerns were highlighted. Following the workshop, the University of York met with the clinics to discuss the issues raised.
- 1.19. It was agreed to phase the project, building in feasibility steps, which would be overseen by a further National Institute for Health and Care Research (NIHR) independent panel. Additionally, NHS England was willing to discuss resource implications to address provider concerns about the potential impact on clinical services.
- 1.20. The team had developed the patient notifications and communications resources to explain the research and provide information about how to opt-out of the study should an individual chose to do so. It was at the point of trying to launch the three-month opt-out period that the clinics confirmed their unwillingness to participate.
- 1.21. In January 2024, NHS England wrote to inform the Review that it had written to the Chief Executives and Medical Directors of the NHS trusts that host adult GDCs and GIDS to ask them to fully cooperate with the University of York in support of the research. Despite this, the necessary cooperation from the services has not been forthcoming and as a consequence, the University of York advised that it was not appropriate to begin the next stage of the study.
- 1.22. The Review is disappointed that the study has not progressed to even the first stage during its lifetime. Despite this setback, it is pleasing that NHS England has stated a clear commitment to realising the ambitions of this study beyond the life of the Review.
- 1.23. The statutory instrument is in place until 2027, and oversight of the study will transfer to the NHS National Research Oversight Board for Children and Young People's Gender Services.

The logo graphic for 'The Cass Review' consists of three overlapping curved shapes. The top shape is a medium teal color and contains the text 'The Cass Review'. Below it is a lighter teal shape, and at the bottom left is an orange shape.

The Cass Review

Independent review
of gender identity
services for children
and young people



Is Social Gender Transition Associated with Mental Health Status in Children and Adolescents with Gender Dysphoria?

James S. Morandini¹ · Aidan Kelly² · Nastasja M. de Graaf³ · Pia Malouf⁴ · Evan Guerin⁵ · Ilan Dar-Nimrod¹ · Polly Carmichael²

Received: 10 June 2019 / Revised: 11 March 2023 / Accepted: 13 March 2023 / Published online: 4 April 2023
© The Author(s) 2023

Abstract

Social gender transition is an increasingly accepted intervention for gender variant children and adolescents. To date, there is scant literature comparing the mental health of children and adolescents diagnosed with gender dysphoria who have socially transitioned versus those who are still living in their birth-assigned gender. We examined the mental health of children and adolescents referred to the Gender Identity Development Service (GIDS), a specialist clinic in London, UK, who had socially transitioned (i.e., were living in their affirmed gender and/or had changed their name) versus those who had not socially transitioned. Referrals to the GIDS were aged 4–17 years. We assessed mental health correlates of living in one's affirmed gender among 288 children and adolescents (208 birth-assigned female; 210 socially transitioned) and of name change in 357 children and adolescents (253 birth-assigned female; 214 name change). The presence or absence of mood and anxiety difficulties and past suicide attempts were clinician rated. Living in role and name change were more prevalent in birth-assigned females versus birth-assigned males. Overall, there were no significant effects of social transition or name change on mental health status. These findings identify the need for more research to understand how social transition influences mental health, including longitudinal studies that allow for more confident inferences to be made regarding the relationship between social transition and mental health in young people with gender dysphoria.

Keywords Gender dysphoria · Social gender transition · Depression · Anxiety · Pediatric

Introduction

There are many unanswered questions regarding how best to support children and adolescents who experience gender dysphoria, a term used to describe persistent distress related to one's biological sex/sex characteristics and/or birth-assigned gender (Zucker et al., 2016). One such question is—at what age and under what conditions do children and adolescents

who experience gender dysphoria benefit from social gender transition (i.e., living in their affirmed gender rather than their gender assigned at birth, which may involve changing their physical gender markers such as hair and clothing as well as their name and gender pronouns)?¹ Answering this question is of particular urgency, given that children and adolescents who experience gender dysphoria or are otherwise gender variant demonstrate a higher prevalence of mental health difficulties than their cisgender peers (Becerra-Culqui et al.,

✉ James S. Morandini
james.morandini@sydney.edu.au

¹ School of Psychology, The University of Sydney, Sydney, NSW 2006, Australia

² Gender Service Organization, Kelly Psychology, London, UK

³ Center of Expertise on Gender Dysphoria, VU University Medical Center, Amsterdam, The Netherlands

⁴ King Street Psychology Clinic, Newtown, Australia

⁵ School of Behavioural and Health Sciences, Australian Catholic University, Sydney, Australia

¹ In principle, social gender transition may refer to either a binary social gender transition (in which a person changes gender markers and appearance to live in the gender role “opposite” to that assigned at birth) or non-binary gender transition (in which case the person may aim to defy binary gender-roles in their pronouns and appearance in some instances) (Breslow et al., 2021; Matsuno & Budge, 2017). In the present context, we are confining our discussion to binary social gender transition (birth-assigned males socially transitioning to live as girls and vice versa), which to this point is the more studied phenomenon in paediatric gender services and which may be more likely to be associated with a desire for medical transition (at least among adults) (Breslow et al., 2021). We acknowledge the importance of future research examining non-binary social transition in paediatric populations.

2018). A recent systematic review of psychiatric comorbidities among prepubertal children diagnosed with gender dysphoria (aged 12 and under) (Frew et al., 2021) demonstrated that up to 21% met criteria for an anxiety disorder, almost half had a significant psychiatric history, and around 10% had attempted suicide. A systematic review of adolescents experiencing gender dysphoria (aged 12–18) (Thompson et al., 2022) demonstrated that comorbid mental health issues were present in 22–78%. Specifically, the prevalence of mood disorders ranged from 30 to 78%, anxiety disorders from 21 to 63%, and suicidal ideation from 12 to 74%. Given that social gender transition is theorized to ameliorate mental health issues in gender dysphoric young people (Ehrensaft, 2016), further empirical examination of this intervention is warranted.

Before moving forward, it is important to clarify terminology. Young people who experience gender dysphoria are variously referred to as “gender variant” (Riley et al., 2011; Wong et al., 2019), “transgender” (Durwood et al., 2017; Olson et al., 2016), “cross-gender identified” (Kuvallanka et al., 2017), and “gender dysphoric” (Wallien & Cohen-Kettenis, 2008)—although these respective terms can imply important sample differences in some instances.² In the present study, we use the term gender variant to capture the diversity of presentations (and stages of gender identity development and symptom severity) among children and adolescents referred to specialist gender dysphoria services.

Disagreement over when social gender transition is indicated is what most differentiates competing models of care for gender dysphoric young people (de Vries & Cohen-Kettenis, 2012; Ehrensaft et al., 2018; Steensma & Cohen-Kettenis, 2018; Zucker, 2018). Perhaps the most widely endorsed model of care, the affirmative model, takes a non-pathologizing stance toward gender variance in young people and views a “myriad of healthy [non-cisgender] gender outcomes” as possible (Ehrensaft, 2016). This approach prioritizes following the child’s lead and accepting and facilitating expression of the child’s “true-gendered-self” (i.e., the child’s authentic

gender identity and expression) (Ehrensaft, 2016). A guiding concern underpinning this approach is the need to protect the child from harm associated with being raised in the wrong gender. Indeed, cultural and familial pressures to conform to cisgender identities, gender roles, and expression are thought to cause considerable harm as they require a gender variant child to suppress their authentic self and emulate socially expected gender roles (the “false gendered self”). Ehrensaft et al. (2018) contend that the construction of a false gendered self is a key contributor of psychiatric morbidity, including suicidality, observed in gender variant populations.

Others have suggested that clinicians and parents should, where possible, delay social gender transition (Steensma et al., 2013). This is based on evidence that gender dysphoria (and cross-gender identities) frequently desist in prepubertal children (Drummond et al., 2008; Singh et al., 2021; Zucker, 2018) and that premature social gender transition may foreclose the child’s gender identity development, increasing the likelihood that gender dysphoria will persist (possibly necessitating medical transition in adolescence onward). This approach has been referred to as “watchful waiting” (de Vries & Cohen-Kettenis, 2012).

There are an increasing number of prepubertal children pursuing social transition prior to attending specialist gender services. For example, the Amsterdam Gender Identity Clinic reported that, before the year 2000, 1.7% of children who attended the clinic were completely socially transitioned at first presentation, while between 2000 and 2004, 3.3% had completed social transitioning at first presentation (Steensma & Cohen-Kettenis, 2011). Reflecting a more dramatic and recent shift, the proportion of birth-assigned males who had socially transitioned prior to contact with the Tavistock Gender Identity Development Service in London, increased from 19.8% in 2012 to 47.2% in 2015 (Morandini et al., 2022). This shift toward social transition being more common prior to contact with gender services may reflect increasing cultural acceptance of transgender identities as viable and healthy outcomes for children and adolescents (Brunskell-Evans & Moore, 2019; Ehrensaft, 2016) and, therefore, greater comfort of parents in independently facilitating a child’s social gender transition.

Existing research on the mental health correlates of social gender transition utilizes diverse methodologies and focuses on somewhat distinct populations. Tracking this research chronologically—the first notable study was Kuvallanka et al.’s (2017) qualitative study of five parents of transgender girls (birth-assigned males) between the ages of 8 and 11. Kuvallanka et al. found that according to parents, social transition appeared to reduce distress and increase self-esteem and self-confidence among their children. Other reports from clinicians and parents following early childhood social transition have echoed similar findings, reporting improved mood in children and enhanced peer and caregiver relationships

² Some clinically relevant differences can exist between these populations. For instance, “transgender children and adolescents” typically refers to individuals who have socially and perhaps medically transitioned to live as their affirmed gender (e.g., Olson et al., 2016). Cross-gender identified and gender dysphoric children and adolescents, on the other hand, has been used to describe those experiencing clinically significant gender concerns, but who may or may not have socially transitioned to live in their affirmed gender (Wallien & Cohen-Kettenis, 2008). Finally, gender variant, perhaps the loosest grouping, has been used to refer to children and adolescents who exhibit gender non-conforming behaviors and/or identities, which may or may not be causing clinically significant distress or impairment (Riley et al., 2011). Given children and adolescents who are transgender, experience gender dysphoria, and/or are markedly gender non-conforming in behavior or identity, are a heterogeneous group, it can be difficult to generalize findings across samples.

(Wong & Drake, 2017), as well as being viewed as protective for the child's happiness and well-being (Horton, 2022).

Several quantitative studies now exist examining correlates of social gender transition. Kuvalanka et al. (2017) examined the well-being of 45 children (aged 6–12 years) in the community (volunteered by parents) who were supported in their gender identity. Kuvalanka et al. compared children with “cross-gender identities” (i.e., those that identified as trans girls or trans boys) and those who were gender non-conforming or had uncertain gender identities (labeled as having “non-cross-gender identities”) to normed data on the Child Behavior Checklist (CBCL). Cross-gender identified children demonstrated functioning in the normal range on all three measured indices (internalizing problems, externalizing problems, and total problems). On the other hand, those with non-cross-gender-identities were in the borderline clinical or clinical range on the same indices. When the two groups of gender diverse children were compared, those who were cross-gender identified demonstrated superior outcomes on internalizing problems and total problems, suggesting binary transition may be protective against mental health difficulties in gender diverse populations—and that socially transitioned children can demonstrate psychological well-being comparable to cisgender controls.

The most widely cited quantitative studies assessing mental health in social gender transitioned are those by Durwood et al. (2017) and Olson et al. (2016). These studies, using the Patient Reported Outcomes Measurement Information System (PROMIS), compared mental health among community convenience samples of American and Canadian prepubescent children who had fully socially transitioned with cisgender siblings and matched controls. The first study (Olson et al., 2016), which was based on parent reports of 73 (51 birth-assigned males) socially transitioned transgender children (3- to 12-years-old), found levels of depression and anxiety in this group was largely comparable with matched controls and siblings/peers, although trans-children were found to have slightly elevated rates of anxiety compared with national population averages. Additionally, Olson et al. compared their study's findings (of socially transitioned children) to previous clinical samples of children reporting gender dysphoria, which included transgender children and those that had not yet transitioned or that may have identified as non-binary. Olson et al. found lower internalizing of symptoms in their sample of socially transitioned children, concluding that social transitioning may reduce mental health difficulties in gender variant youngsters.

The second study was based on parent and self-report reports of 116 socially transitioned transgender young people (68 birth-assigned males) (Durwood et al., 2017). This study found that among 9- to 14-year-old transgender young people, depression did not differ from matched-control or sibling peers, but that transgender young people, again,

demonstrated slightly elevated anxiety. Additionally, among 6- to 14-year-old transgender young people, self-worth did not differ from cisgender matched controls or cisgender siblings. Collectively, these findings have been interpreted to suggest that affirming a gender variant child/adolescents' gender identity via social transition will reduce psychological difficulties often observed within gender variant populations (de Graaf et al., 2018; de Vries et al., 2016; Ehrensaft et al., 2018). The Olson et al. (2016), Durwood et al. (2017), and Kuvalanka et al. (2017) studies suggest that social transition can be associated with normative mental health outcomes among young people with gender dysphoria, a group who have been shown to experience poorer psychological well-being on the whole (Tankersley et al., 2021; Thompson et al., 2022).

Other recent studies, however, have failed to find superior well-being in socially transitioned young people. Wong et al. (2019) compared published CBCL data (van der Miesen et al., 2018) on 162 cisgender children (aged 6–12 years) who had levels of gender variance similar to children referred to specialist gender clinics, with published data on 104 children who had undertaken social gender transition (Kuvalanka et al., 2017; Olson et al., 2016). A statistical bootstrapping approach was utilized to control for birth-assigned sex, age, and degree of gender variance when comparing CBCL scores between cisgender gender variant children and socially transitioned gender variant children. Cisgender gender variant children and socially transitioned children demonstrated broadly equivalent levels of internalizing problems—and only a minority of each sample demonstrated clinical or borderline clinical scores on internalizing problems. This latter finding suggests that Olson et al.'s (2016) finding of broadly comparable mental health status between social gender transitioned children and normative samples might not be entirely surprising.

Finally, a study by Sievert et al. (2021) more directly examined whether social gender transition was related to improved psychological functioning in 54 gender variant children who had received a gender dysphoria diagnosis (aged 5- to 11-years). Social transition was assessed in a graded manner from 1 (no social transition and living in birth-assigned gender) to 4 (complete social transition in all life areas). After controlling for gender assigned at birth, age, socioeconomic status, poor peer relations, and general family functioning, social transition status did not predict psychological functioning as measured by the CBCL.

The existing literature has shown mixed evidence for a relationship between social gender transition and psychological functioning (positive effects in some studies and null effects in others). It should be noted, however, that the existing literature is limited in a number of respects. Past studies have failed to examine how the mental health consequences of social transition may be moderated by a range of

individual factors, such as birth-assigned gender and pre- versus post-pubertal age. This may be partly due to the relatively small samples (N 's = 45–162) utilized in past studies, which precluded such analyses. Except for Durwood et al. (2017) (who included 6- to 14-year-olds), existing studies have been conducted in children aged 12 years of age or under. Given the recent preponderance of gender dysphoria first becoming apparent in adolescence (Aitken et al., 2015; de Graaf et al., 2018), examining the mental health correlates of social gender transition in early, mid, and late adolescence is increasingly clinically important as well. Next, past studies examining correlates of social transition have utilized self-report and parent-report measures (typically the CBCL) in assessing mental health. No studies to date have included ratings of mental health status by trained mental health professionals. Apart from Sievert et al. (2021), existing studies have not compared the mental health outcomes of children and adolescents diagnosed with gender dysphoria based on their social transition status, i.e., comparing socially transitioned versus non-socially transitioned gender dysphoric children and adolescents in terms of their mental health. Existing studies have compared transgender participants with their cisgender siblings or with normative data based on cisgender populations (Durwood et al., 2017; Olson et al., 2016), with gender variant cisgender individuals (Wong et al., 2019) or with non-binary children (Kualanka et al., 2017). Given that some commentators contend that transgender children and adolescents differ in kind to their gender variant cisgender peers (Temple Newhook et al., 2018), comparing correlates of social gender transition status among a population of children and adolescents all diagnosed with gender dysphoria provides a more direct test of proposed benefits of social gender transition. Failing to ensure that both socially transitioned and non-socially transitioned referrals to a gender service were nevertheless still experiencing gender dysphoria could possibly confound findings. For example, patients living in their birth-assigned gender may be found to have superior well-being because they were less likely to be gender dysphoric to begin with and, therefore, less distressed (not because avoidance of social transition leads to superior outcomes).

The Present Study

There are scarce data comparing the mental health of gender dysphoric children and adolescents who have socially transitioned with those who have not (and who are living in their gender assigned at birth). The present study sought to contribute to this literature by undertaking this comparison in a cohort of children and adolescents who had presented for assessment at a specialist gender identity clinic in the UK. We aimed to extend on past studies in a number of ways, including: (1) utilizing a larger sample of socially

transitioned children and adolescents; (2) examining whether associations between mental health and social transition were moderated by birth-assigned gender and developmental stage (by including patients from early childhood through to late adolescence); and (3) utilizing clinician ratings of mental health based on a comprehensive mental health assessment—potentially reducing risk of social desirability bias and complementing past studies of this type that have relied exclusively on parent or self-report data. Our study examines correlates of social gender transition on mood and anxiety disorders, given these disorders appear to be prevalent psychiatric comorbidities among gender variant youth (Frew et al., 2021; Thompson et al., 2022). We also examined the link between social gender transition and suicide attempts, given increased prevalence of this behavior in gender variant versus cisgender young people (Biggs, 2022), and the theorized link between transition status and suicidality (Ehrensaft et al., 2018).

Method

Subjects

Patients were drawn from 774 children and adolescents (M age = 14.37 years, SD = 2.47, range 4–17) referred to The Gender Identity Development Service (GIDS) in London over a 5-year period (from January 2012 to December 2016), and for whom the Associated Difficulties form was completed. The majority of these patients were rated as wishing to live in a binary gender opposite to their birth-assigned gender (93%), with a small minority rated as desiring to live as non-binary (7%). Most were White British (75.4%), with a small representation of other ethnic groups. To our knowledge, none of the patients referred had commenced any form of medical transition (including hormone blockers) prior to first being seen at GIDS. There was a considerable amount of data missing on critical variables, as depicted in Fig. 1 (i.e., flowchart outlining exclusion of cases due to missing data on variables of interest). Missing data were due to clinicians failing to complete the associated difficulties form at assessment or clients dropping out prior to assessments being completed.

To be included in the primary analysis, cases required a diagnosis of gender dysphoria, as well as birth-assigned gender and age to be recorded. A negative gender dysphoria diagnosis was recorded for n = 155 patients and n = 149 patients did not have gender dysphoria status recorded on their files. Reasons for the former were not recorded but likely include clinicians' failing to complete the form or patient drop-out prior to gender dysphoria diagnosis being made. In addition, at least one transition variable (living in role and/or name change) needed to be recorded. Considerably more data were missing on the living in birth-assigned gender versus

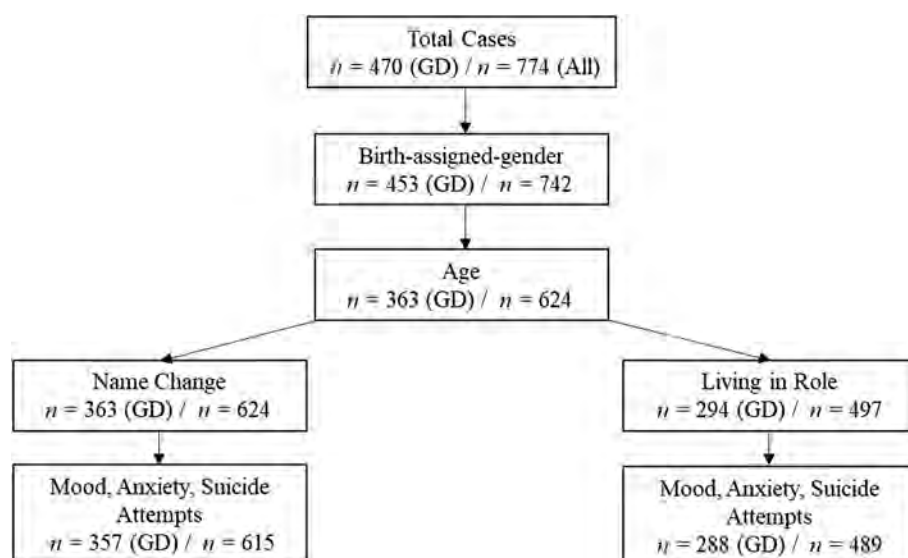


Fig. 1 Flowchart outlining progressive exclusion of cases due to missing data and depicting final sample size for regression models examining name change status on mood, anxiety, and suicide attempt, and living in role status on mood, anxiety, and suicide attempt. Left-hand sample size reflects cases where a positive gender dysphoria (GD) was recorded (primary analyses reported in the manuscript

were conducted upon this sample). Right hand size represents total cases, inclusive of patients with a positive gender dysphoria diagnosis recorded ($n=470$), a negative gender dysphoria diagnosis recorded ($n=155$), or for which information on gender dysphoria status was absent ($n=149$). Analyses reported in supplementary materials are based on total cases

living in affirmed gender variable—than the name change variable (i.e., $n=69$ additional cases) (again, see Fig. 1). A small amount of data were missing on mental health variables (no more than four cases were missing on either mood, anxiety, or suicide attempts). For ease of reporting sample characteristics, only cases for which data on all three mental health indices were recorded were included in the primary analysis or in secondary analysis completed in supplementary materials.

The final sample for analysis of living in birth-assigned gender versus affirmed gender role status consisted of 288 children and adolescents, of whom 72% were birth-assigned female and 73% had undertaken a partial or full social gender transition (208 birth-assigned female; 210 socially transitioned). All patients with living in birth-assigned gender versus affirmed gender role data also had corresponding name change data. The final sample for analysis of name change status consisted of 357 children and adolescents, of whom 71% were birth-assigned female and 60% had changed their name (253 birth-assigned female; 214 name change).

Procedure and Measures

Upon first contact with the GIDS, patients and their families undertook in-depth psychological assessment of gender dysphoria, comorbid psychiatric disorders, and relevant psychosocial stressors. These assessments involved a minimum of three one-hour assessments with two mental health

clinicians (psychiatrists, clinical psychologists, or registered psychotherapists). Assessment sessions involved both child/adolescent patients and their families, assessed individually and together as a family. At the end of the assessment period, the associated difficulties form was completed by both mental health clinicians. Clinicians conferred with one another to ensure agreement on diagnoses. When disagreement in opinion was present—clinicians discussed the matter (or assessed further) until agreement could be made. Referral letters and clinician reports referencing mental health functioning prior to contact with the GIDS were also taken into account in making these judgments (e.g., an autism spectrum disorder [ASD] diagnosis could be gleaned via letters in many instances). The associated difficulties form involved 29 questions relevant to demographics, psychosocial stressors, and DSM-5 diagnoses. These questions are outlined in detail in a past study from our service using this data (Holt et al., 2016). The full list of variables in the Associated Difficulties form is reported in Supplementary Materials. In the present study, we examined data on 10 variables from the Associated Difficulties Form: birth-assigned gender, ethnicity, age at time of referral, age of first gender dysphoria symptoms, social transition (no, partly, yes), name change (no, partly, yes), the presence of current mood or anxiety disorders at time of assessment, and past suicide attempts.

The key variables of social transition, “living in birth-assigned gender versus affirmed gender role” and “name change,” were originally rated in three categories: “no” (i.e.,

Table 1 Breakdown of patients “living in role” (yes, partly, no) and “name change” (yes, partly, no) among those with a gender dysphoria diagnosis confirmed as well as total cases (irrespective of gender dysphoria status)

	Gender dysphoria diagnosis confirmed		Total cases	
	Living in role (% [n])	Name change (% [n])	Living in role (% [n])	Name change (% [n])
Yes	59.4% (171)	59.9% (214)	50.7% (248)	49.3% (303)
Partly	13.5% (39)	2.2% (8)	12.7% (62)	2.3% (14)
No	27.1% (78)	37.8% (135)	36.6% (179)	48.5% (298)

no social transition/name change), “partly” (i.e., partial social transition/name change), or “yes” (i.e., full social transitioned/name change”) (consistent with how social transition was assessed by Steensma et al., [2013]). Because very few respondents were rated as partially socially transitioned or as partially using a new name, this was not a viable cell for analysis. We, therefore, combined partially and fully transitioned patients into a single group, creating dichotomous variables for both living in role and name change (0 = No transition or No name change, 1 = Any social transition or Any name change). This dichotomization is consistent with how these variables were treated by Steensma et al. (2013). See Table 1 for a breakdown of social transition/name change, partial social transition/partial name change, and no social transition/no name change in the gender dysphoria confirmed sample and for total cases. Mood difficulties reflected a full diagnosis of a DSM-5 depressive disorder (e.g., major depressive disorder or persistent depressive disorder). Anxiety difficulties reflected a full diagnosis of a DSM-5 anxiety disorder (e.g., social anxiety disorder, panic disorder, generalized anxiety disorder). Suicide attempts reflected any suicide attempt occurring in the client’s past. All data were anonymized in order to ensure the confidentiality of patients.

Data Analytic Plan

In addition to the variables “living in one’s affirmed gender role” and “name change,” a third social gender transition variable was computed (“social transition composite”) which was the sum of “living in one’s affirmed gender role” and “name change” resulting in a score from 0 (neither “living in one’s affirmed gender role” nor “name change”) to 2 (both “living in one’s affirmed gender role” and “name change”). Age was treated as a continuous variable. Mood and anxiety difficulties were rated as present or absent, as was history of a suicide attempt.

We planned to use binomial logistic regression to examine whether the association between living in role, name change, and a composite of living in role and name change, and dependent variables (mood, anxiety, or suicide attempt) were moderated by age and birth-assigned gender. We examined interactions between age and birth-assigned gender, and

the social transition variables as past theoretical and empirical research identify different pathways to gender dysphoria and different comorbidities associated with gender dysphoria, based on age at referral and birth-assigned gender (Aitken et al., 2015; Lawrence, 2010).

For each dependent variable, regression models took the same form. In Step 1, we examined the main effect of “living in role” or “name change,” “birth-assigned gender,” and “age” on the dependent variable of interest. In Step 2 (which was only interpreted if the Chi-square change for Step 2 was significant), we added interactions between Birth-assigned gender \times Age, Birth-assigned gender \times Living in Role/Name Change/Composite, and Living in Role/Name Change/Composite \times Age. In Step 3, we added the three-way interaction between Birth-assigned gender \times Age \times Living in Role/Name Change/Composite (again, Step 3 was only interpreted if the Chi-square change for Step 3 was significant). Whereas analysis reported here is for those patients who had a positive gender dysphoria diagnosis—we also completed identical analysis on the full sample of referrals to the GIDS (with or without a positive diagnosis of gender dysphoria—see Supplemental Materials. Findings were identical to those completed on the gender dysphoria cohort). The critical α utilized in all analyses was $p < 0.05$.

As our sample size was determined by available data, we wanted to assess the minimum effect sizes that the current sample was equipped to identify with a power of 0.80 ($\alpha < 0.05$). Thus, the existing values of the sample (Social Transition: 179/310 for Living in birth gender/living in affirmed gender, respectively, as well as Social Transition: 312/303; for still using birth name/name already changed, respectively) were inserted to a power calculator (G*Power version 3.1.9.7) for logistic regression to determine the smallest effect sizes that the social transition indicators (living in role and name change) are well powered to detect. The analyses indicated that, given the existing data, the analyses had 80% power to detect an effect size of 1.84/1.70 (in odds ratio terms) for living in role/name change, respectively. That means that given the data, the analyses were well powered to identify even small-medium effect sizes that may differ as a function of the main variable of interest—social transition.

Table 2 Descriptives for mood disorder, anxiety disorder, and suicide attempt prevalence in those living in their birth gender role versus living in their affirmed gender role

	AFAB		AMAB	
	Living in birth gender (<i>n</i> = 45)	Living in affirmed gender (<i>n</i> = 163)	Living in birth gender (<i>n</i> = 33)	Living in affirmed gender (<i>n</i> = 47)
4–12 ^a (years)	25.9% (7)	74.1% (20)	13.6% (3)	86.4% (19)
13–17 ^a (years)	21.0% (38)	79.0% (143)	51.7% (30)	48.3% (28)
Age mean (SD)	14.40 (2.28)	14.61 (1.93)	14.94 (2.52)	12.62 (3.74)
Mood disorder ^b	44.4% (20)	53.4% (87)	63.6% (21)	34.0% (16)
Anxiety disorder ^b	33.3% (15)	33.7% (55)	33.3% (11)	27.7% (13)
Suicide attempt ^b	6.7% (3)	11.7% (19)	6.1% (2)	8.5% (4)

^aThe percentages in this row reflect the percentages of individuals in that specific age group who live in birth vs affirmed gender

^bThe percentages in this row reflect the percentages of individuals with the psychopathological indicator as a function of the gender they are living in

Table 3 Descriptives for mood disorder, anxiety disorder, and suicide attempt prevalence in those using their birth name versus affirmed name

	AFAB		AMAB	
	Birth name (<i>n</i> = 78)	Name change (<i>n</i> = 175)	Birth name (<i>n</i> = 65)	Name change (<i>n</i> = 39)
4–12 ^a (years)	33.3% (10)	66.7% (20)	60% (15)	40% (10)
13–17 ^a (years)	30.5% (68)	69.5% (155)	63.3% (50)	37.7% (29)
Age mean (SD)	14.55 (1.82)	14.61 (2.03)	14.04 (3.12)	13.56 (3.42)
Mood disorder ^b	48.7% (38)	54.3% (95)	46.2% (30)	46.2% (18)
Anxiety disorder ^b	29.5% (23)	35.4% (62)	33.8% (22)	20.5% (8)
Suicide attempt ^b	9.0% (7)	13.1% (23)	6.2% (4)	10.3% (4)

^aThe percentages in this row reflect the percentages of individuals in that specific age group who live in birth vs. affirmed gender

^bThe percentages in this row reflect the percentages of individuals with the psychopathological indicator as a function of the gender they are living in

Results

Descriptive Statistics

Of those in our sample, 78.4% of birth-assigned females and 58.8% of birth-assigned males had either partially or fully socially transitioned prior to assessment, and 69.2% of birth-assigned females and 37.5% of birth-assigned males had changed their name prior to assessment (see Tables 2 and 3). Chi-square tests (a 2 [Age group] by 2 [Social transition indicators]) demonstrated that, among AFAB patients, proportions of prepubertal (4–12) versus adolescent (13–17) patients who were “living in role” ($\chi^2(1) = 0.34, p = 0.56$) and had undergone “name change” ($\chi^2(1) = 0.10, p = 0.75$)—were similar ($p > 0.5$'s). On the other hand, among AMAB patients, adolescent AMABs were significantly less likely to be “living in role” ($\chi^2(1) = 9.55, p = 0.002$) than prepubertal AMABs, but did not differ in likelihood of “name change” compared to prepubertal AMABs ($\chi^2(1) = 0.09, p = 0.77$).

Based on clinical assessment and referral documents, among patients with a diagnosis of gender dysphoria and for whom name change and/or living in role status was recorded, 52.6% of birth-assigned females and 46.2% of birth-assigned males were experiencing mood difficulties, 33.6% of birth-assigned females and 28.8% of birth-assigned males were experiencing anxiety and 11.9% of birth-assigned females and 7.4% of birth-assigned males had past suicide attempts. Tables 2 and 3 show these variables based on participant's birth-assigned gender, age at referral (4–12 years of age, or 13–17 years of age), and living in role/name change status. Chi-square analyses indicated that there were no significant differences (p 's > 0.10) in any of the pathological indicators (i.e., mood disorders, anxiety disorders, and suicide attempted), as a function of the social transition indicators (i.e., living in birth/assigned gender, name change), within each of the two groups for either AFAB or AMAB, except in one case (out of the 12 tests). The sole exception indicated that, among AMABs, mood disorder was more common among individuals living in the birth (vs. affirmed) gender ($\chi^2(1) = 6.83, p = 0.009$).

Table 4 Correlations between birth-assigned gender, age, name change, and mental health outcomes ($n=357$)

	<i>M</i>	<i>SD</i>	AFAB vs. AMAB	Age	Name change	Mood	Anxiety	Suicide attempt
AFAB vs. AMAB	1.30	.46						
Age	14.06	2.72	– .136					
Name change	1.66	.47	– .198**	– .081				
Mood	1.50	.50	– .058	.272**	.051			
Anxiety	1.34	.48	– .046	.091	.013	.332**		
Suicide attempt	1.90	.30	– .061	.153**	.078	.195**	.073	

Assigned Female at Birth (AFAB)=1; Assigned Male at Birth (AMAB)=2; Name Change, Mood, Anxiety, Suicide Attempt (No=1; Yes=2)

Note. * $p < .05$, ** $p < .01$

Correlation Matrix: Social Transition, Birth-Assigned Gender, Age, and Mental Health Status

First, we examined zero-order correlations between all variables. As we had more data on patients who had “name change” (Table 4) than data in “living in role” or both (Table 5), we present two tables. Perusal of the correlation matrixes showed that, relative to birth-assigned females, birth-assigned males were younger at referral, less likely to be “living in role,” or to have changed their name. Age at referral was positively associated with the presence of a mood or anxiety disorder and a suicide attempt. As would be expected, all indices of social transition were highly correlated, as were all indices of mental health status. Critically, there was no significant association between “living in role” and “name change” on the mental health variables.

Living in Role: Logistic Regressions

Mood and Anxiety Difficulties and Suicide Attempts

Table 6 shows the results from the binomial logistic regressions assessing whether living in one’s affirmed gender (i.e., having socially transitioned), birth-assigned gender, and age at assessment (and their two-way and three-way interactions) predicted the likelihood of mood and anxiety difficulties or past suicide attempts. For the regression on mood difficulties and suicide attempts, a main effect of age was observed, such that older patients were more likely to report mood issues and past suicide attempts but not anxiety issues. Living in role and birth-assigned gender were not associated with mood, anxiety, or suicide attempts. Likewise, Step 2 and Step 3 were not significant, indicating no two-way or three-way interactions were observed (p ’s > 0.05).

Name Change: Logistic Regressions

Mood and Anxiety Difficulties and Suicide Attempts

Table 7 reports results from the binomial logistic regressions assessing whether name change, birth-assigned gender,

and age (and all interactions between these variables) were related to the likelihood of mood or anxiety issues or suicide attempts. As above, age was positively associated with likelihood of mood issues and suicide attempt, but not anxiety. Name change and birth-assigned gender were not associated with mental health status. No two-way or three-way interactions were significant (p ’s > 0.05).

Social Transition Composite: Logistic Regressions

Mood and Anxiety Difficulties and Suicide Attempts

Table 8 shows the results from the binomial logistic regressions assessing whether the social transition composite variable, birth-assigned gender, and age (as well as interactions between all variables) predicted the likelihood of mood and anxiety difficulties and suicide attempts. A main effect of age was observed such that older patients had a greater likelihood of mood issues and suicide attempts, but not anxiety issues. The social transition composite variable did not predict mental health status nor did birth-assigned gender. No two-way or three-way interactions were significant (p ’s > 0.05).

Discussion

The present study was among the first to examine whether children and adolescents diagnosed with gender dysphoria who had socially transitioned showed fewer psychological difficulties than those (also with gender dysphoria) who were still living in their birth-assigned gender. Overall, we failed to find robust evidence that social transition (living in one’s affirmed gender role or adopting a name to reflect one’s affirmed gender identity) was associated with mental health status in the short term. Although we found that mood disorders were more common among AMAB who did not transition, in 11 other such comparisons (2—assigned gender at birth \times 3—pathological indicators \times 2—social transition indicator) there was no indication for differences as a function of social transition. It is possible that the mood finding

Table 5 Correlations between birth-assigned gender, age group, social transition status, and mental health outcomes ($n = 288$)

	<i>M</i>	<i>SD</i>	AFAB vs. AMAB	Age	In role	Name change	Social composite	Mood	Anxiety	Suicide attempt
AFAB vs. AMAB	1.28	.45								
Age	14.29	2.54	– .176**							
In role	1.73	.45	– .198**	– .081						
Name change	1.64	.48	– .314**	.069	.458**					
Social transition composite	3.37	.79	– .302**	– .004	.842**	.866**				
Mood	1.50	.50	– .047	.288**	– .031	.022	– .004			
Anxiety	1.33	.47	– .035	.119*	– .009	– .006	– .009	.355**		
Suicide attempt	1.90	.30	– .047	.171**	.068	.098	.098	.234**	.047	

Assigned Female at Birth (AFAB) = 1; Assigned Male at Birth (AMAB) = 2; In role, Name Change, Social Composite, Mood, Anxiety, Suicide Attempt (No = 1; Yes = 2)

Note. * $p < .05$, ** $p < .01$

among AMAB was spurious (e.g., if a Bonferroni correction for multiple tests was used to account for the 12 tests, the AMAB mood difference would have not reached significance). The possibility of the spuriousness is strengthened, as more sensitive analyses that treated age as a continuous rather than as a categorical variable, failed to support that finding.

Our failure to observe significant differences in the mental health status of gender variant children who had socially transitioned versus gender variant children living in their birth-assigned gender is consistent with findings from the methodologically similar studies by Wong et al. (2019) and Sievert et al. (2021). Our findings extend on Wong et al. (who compared published data on the Olson et al. (2016) and Kuvalanka et al. (2017) samples of socially transitioned children with published data on cisgender gender variant children) by failing to find a significant effect of social transition on mental health in a sample of young people all of whom were diagnosed with DSM-5 gender dysphoria—and thus differed in their social transition status—not in their gender dysphoria status. While our findings are consistent with Sievert et al. (2021) in finding social transition was not associated with the mental health status of clinic-referred child patients with a DSM-5 gender dysphoria diagnosis—it extended these findings to adolescents as well. Given adolescent patients comprise the majority of contemporary referrals to gender services (Aitken et al., 2015) and given management of adolescent gender dysphoria has been an area of recent clinical controversy (Littman, 2018; Restar, 2020), the absence of an association between social transition status and mental health status in adolescents is noteworthy.

Notably, contrary to one past study finding a positive association between chosen name use and mental health in gender variant youth (Russell et al., 2018), name change status was not associated with mental health in our sample. The divergence in results could relate to a number of differences between the two studies. First, Russell et al. (2018) measured a more behavioral construct (i.e., in what contexts “are you able to go by your chosen name?”) which, on reflection, seems to assess how safe and affirming one’s social environment is for chosen name use. In our study, by contrast, name change status refers to whether the young person with gender dysphoria had commenced this aspect of their social transition. Second, Russell et al.’s sample was majority young adult (15–21), whereas ours was child and adolescent (4–17). Name change may not be associated with positive mental health outcomes in our sample because: (1) our young people were school age (and schools have been identified as a high-risk environment for harassment of gender variant young people, Martín-Castillo et al. 2020); (2) our sample would have more recently adopted a chosen name (a period when backlash would presumably be higher); and (3) were a clinical sample and thus may have had greater pre-existing mental health vulnerabilities.

Table 6 Logistic regressions predicting the likelihood of a mood disorder, anxiety disorder, and suicide attempt in AFAB versus AMAB referrals living in their birth-assigned gender role or affirmed gender role (n = 288)

Variable	Mood disorder			Anxiety disorder			Suicide attempt		
	β	p-value	Exp (β)	β	p-value	Exp (β)	β	p-value	Exp (β)
Model 1									
Step $\chi^2(3)$	25.83	< .001		4.40	.221		14.99	.002	
Nagelkerke R^2	.11			0.21			.11		
AGAB	-.02	.942	.98	-.09	.775	.92	-.15	.770	.86
Age	.27	< .001	1.30	.11	.055	1.12	.48	.005	1.62
In role	-.04	.898	.96	-.01	.961	.99	.71	.188	2.04
Model 2									
Step $\chi^2(7)$	32.78	.073		4.51	.991		15.54	.906	
Nagelkerke R^2	.14			.02			.03		
AGAB	-1.15	.640	.32	-.16	.940	.85	3.18	.568	23.93
Age	.37	.306	1.45	.18	.556	1.19	.81	.386	2.24
In role	4.29	.102	72.61	.67	.761	1.95	.45	.950	1.57
AGAB \times Age	.18	.186	1.20	.01	.951	1.01	-.24	.463	.79
AGAB \times In role	-.21	.232	.82	-.04	.752	.96	-.00	.998	1.00
Age \times In role	-.94	.152	.39	-.03	.967	.97	.20	.863	1.22
Model 3									
Step $\chi^2(8)$	32.86	.769		5.55	.309		15.63		
Nagelkerke R^2	.14			.03			.11		
AGAB	1.84	.856	6.32	7.11	.340	1224.73	-5.05	.870	.01
Age	.63	.509	1.87	.91	.266	2.48	.12	.965	1.12
In role	6.40	.403	599.29	6.78	.307	874.00	-5.40	.805	.01
AGAB \times Age	-.02	.978	.98	-.48	.330	.62	.29	.883	1.33
AGAB \times In role	-.35	.497	.71	-.46	.303	.63	.37	.790	1.45
Age \times In role	-2.56	.637	.08	-4.12	.312	.02	4.58	.776	97.64
AGAB \times Age \times In role	.11	.764	6.32	.28	.310	1.32	-.28	.784	.76

AGAB = Assigned Gender at Birth (1 = Female; 2 = Male); In role, Mood, Anxiety, Suicide Attempt (No = 1; Yes = 2)

As reported in past studies among gender dysphoric cohorts (Holt et al., 2016), we found that the risk of mood difficulties and suicide attempts was higher in gender dysphoric adolescents than gender dysphoric children. Given that psychiatric disorders (including anxiety disorders and depression) and suicidality often first onset in adolescence (e.g., Kessler et al., 2005), this finding is not surprising, and may simply reflect normative developmental processes that make adolescence a vulnerable period for psychopathology in all adolescents. It is also possible, however, that the onset of adolescence in gender dysphoric young people might be a particularly high-risk period (above and beyond that observed in cisgender samples) due to the development of secondary sex characteristics and additional demands related to navigating one's social environment as a gender diverse person. The failure to find an age-related increase in anxiety disorders in our study was somewhat surprising, given that increased prevalence of anxiety from childhood to adolescence has been reported in non-gender dysphoric samples (Ford et al., 2003). However, developmental literature

finds that anxiety is more likely to onset in childhood than is depression or suicidality (Axelson & Birmaher, 2001; Rapee et al., 2009), and thus positive associations between anxiety and age would be expected to be relatively weaker or perhaps nonexistent in some samples.

Supporting previous observation (Holt et al., 2016), prepubertal and adolescent birth-assigned females were more likely to have socially transitioned prior to engagement with specialist gender services than birth-assigned males of equivalent age. One possible explanation for this pattern of findings is that there is less social cost associated with masculine self-presentation among birth-assigned females than feminine self-presentation among birth-assigned males (Shiffman, 2013). It was also notable that almost half of those aged 4–12 were living in their affirmed gender and had changed their name (either partially or fully) prior to contact with the service. In line with observations of Ehrensaft (2016) and recent empirical studies (e.g., Morandini et al., 2022), it appears that an increasing number of parents are facilitating social transition with their gender variant child prior to contact with specialist gender clinics.

Table 7 Logistic regressions predicting the likelihood of a mood disorder, anxiety disorder, and suicide attempt in AFAB versus AMAB referrals with their birth-assigned name versus affirmed name (n = 357)

Variable	Mood disorder			Anxiety disorder			Suicide attempt		
	β	p-value	Exp (β)	β	p-value	Exp (β)	β	p-value	Exp (β)
Model 1									
Step $\chi^2(3)$	29.27	< .001		3.53	.317		14.14	.004	
Nagelkerke R^2	.11			0.14			.08		
AGAB	– .07	.781	.93	– .17	.524	.84	– .30	.506	.75
Age	.26	< .001	1.30	.08	.107	1.09	.36	.006	1.43
Name change	.19	.429	1.21	.00	.986	1.00	.47	.233	1.61
Model 2									
Step $\chi^2(7)$	33.64	.224		6.59	.382		14.66	.915	
Nagelkerke R^2	.12			.03			.08		
AGAB	– 3.31	.127	.04	.47	.806	1.60	1.76	.683	5.79
Age	.06	.845	1.06	.03	.930	1.03	.73	.253	2.07
Name change	1.19	.545	3.30	1.34	.481	3.82	1.57	.725	4.83
AGAB \times Age	.22	.091	1.25	.05	.682	1.05	– .16	.535	.85
AGAB \times Name change	– .02	.968	.98	– .92	.102	.40	.25	.777	1.29
Age \times Name change	– .07	.608	.94	– .01	.930	.99	– .09	.739	.91
Model 3									
Step $\chi^2(8)$	33.64	.997		8.04	.227		14.77		
Nagelkerke R^2	.12			.03			.08		
AGAB	– 3.28	.621	.04	7.07	.236	1174.20	– 3.31	.841	.04
Age	.06	.924	1.07	.73	.284	2.08	.27	.864	1.30
Name change	1.22	.830	3.37	7.79	.185	2415.99	– 2.56	.848	.08
AGAB \times Age	.22	.619	1.25	– .41	.315	.67	.17	.874	1.18
AGAB \times Name change	– .04	.992	.96	– 5.28	.168	.01	3.18	.728	23.96
Age \times Name change	– .07	.861	.94	– .45	.254	.64	.18	.839	1.19
AGAB \times Age \times Name change	.00	.997	1.00	.30	.246	1.35	– .19	.747	.83

AGAB = Assigned Gender at Birth (1 = Female; 2 = Male); Name Change, Mood, Anxiety, Suicide Attempt (No = 1; Yes = 2)

Limitations

There were limitations of the present study that should be kept in mind when interpreting key findings. We did not have sufficient demographic data to determine whether our sample was representative of clinic-referred samples of gender variant youth and therefore how generalizable these findings are. Next, owing to our cross-sectional design, we were not able to capture how benefits (or adversities) related to social transition might unfold overtime. For instance, it is possible that benefits of social transition accrue slowly, perhaps over years, as a young person's peer and family environment progressively accommodate their affirmed gender. Relatedly, it is possible that social adversity is heightened in the early stages of social transition (e.g., anxiety around passing, misgendering), canceling out benefits of greater gender congruence, with positive effects on mental health only becoming evident as these adversities subside or as coping strategies are developed. Alternatively, young people might experience temporary

improvements in mental health related to social transition that subside with time.

The absence of longitudinal data (tracking the same individuals' mental health status before and after social transition) leaves open the possibility that young people in our sample who socially transitioned were experiencing more severe gender dysphoria than those who had not socially transitioned. As such, it might be the case that social gender transition had ameliorated distress in our socially transitioned children and adolescents but that they failed to demonstrate superior functioning than non-transitioned peers, owing to their more severe presentations at baseline. It is also possible that social transition alone without subsequent medical affirmation (e.g., puberty suppression, gender affirming hormones, or surgery) is insufficient to treat gender dysphoria and that benefits of social transition might occur once young people feel more gender-congruent in their bodies or pass more easily in their affirmed gender following hormone replacement therapy or gender affirming surgeries. Finally, there is a

Table 8 Logistic regressions predicting the likelihood of a mood disorder, anxiety disorder, and suicide attempt in AFAB versus AMAB referrals based on the social transition composite (n = 357)

Variable	Mood disorder			Anxiety disorder			Suicide attempt		
	β	p-value	Exp (β)	β	p-value	Exp (β)	β	p-value	Exp (β)
Model 1									
Step $\chi^2(3)$	25.81	<.001		4.46	.216		15.86	.001	
Nagelkerke R^2	.11			.21			.11		
AGAB	-.02	.951	.98	-.11	.731	.95	-.03	.949	.97
Age	.27	<.001	1.31	.11	.055	.01	.47	.006	1.60
Social transition	-.01	.949	.99	-.04	.812	.11	.50	.113	1.65
Model 2									
Step $\chi^2(7)$	31.09	.152		4.64	.591		16.53	.881	
Nagelkerke R^2	.14			.02			.12		
AGAB	.39	.572	.25	.41	.849	1.50	4.08	.477	59.08
Age	2.00	.331	1.48	.13	.707	1.14	1.21	.269	3.34
Social transition	.16	.150	7.41	.25	.839	1.28	2.28	.582	9.78
AGAB \times Age	-.11	.228	1.18	-.00	.979	1.00	-.25	.431	.78
AGAB \times Social transition	-.34	.251	.90	-.01	.936	1.00	-.11	.669	.90
Age \times Social transition	-1.37	.359	.71	-.15	.680	.86	4.08	.925	.94
Model 3									
Step $\chi^2(8)$	31.16	.798		7.06	.120		16.65		
Nagelkerke R^2	.14			.03			.12		
AGAB	-3.96	.706	.02	12.62	.135	303,893.51	-6.27	.838	.00
Age	.16	.870	1.17	1.39	.140	3.99	.25	.931	1.29
Social transition	1.03	.801	2.79	5.70	.146	297.50	-1.83	.882	.16
AGAB \times Age	.34	.628	1.40	-.83	.141	.43	.40	.834	1.50
AGAB \times Social transition	-.04	.886	.96	-.38	.152	.69	.15	.846	1.16
Age \times Social transition	.41	.890	1.51	-3.85	.124	.02	2.78	.736	16.03
AGAB \times Age \times social transition	-.05	.799	.95	.25	.133	1.29	-.18	.729	.84

AGAB = Assigned Gender at Birth (1 = Female; 2 = Male); Mood, Anxiety, Suicide Attempt (No = 1; Yes = 2)

need for caution when interpreting the association (or lack thereof) between likelihood of suicide attempts and social transition status in this study. To the extent that social transition has an ameliorating effect on suicidality, all things being equal, we may expect to see a reduced likelihood of suicide attempts in the group who has undergone social gender transition versus not undergone social transition. However, it is possible that insufficient time has passed for social gender transition to influence suicidality particularly given suicide attempts are rare events. Second, if the socially transitioned group had higher or lower likelihood of suicide attempts prior to their social transition (than the group who did not social transition) this could lead to spuriously attributing this difference to an intervention (social transition) which could not have generated this group difference. Again, longitudinal research is required before any confident claims regarding the relationship between social gender transition and suicide attempts can be made.

Future studies should also measure the moderating influence of transition related discrimination and transition

related social support when assessing the mental health consequences of social gender transition. Relevant to this latter possibility, Durwood et al.'s (2021) study, examining parent reports of 265 socially transitioned transgender youth, ages 3–15 (67.2% transgender girls, 32.8% transgender boys) found that parents who reported higher levels of family, peer, and school support for their child's transgender identity also reported fewer internalizing symptoms in their child. Moreover, peer and school support for the young person's transgender identity moderated the association between gender-related victimization and internalizing symptoms. Such research will better identify how to avoid or ameliorate negative psychosocial experiences related to social transition.

Our assessment of social gender transition was also limited in a number of respects. Firstly, our sample was almost exclusively binary identified transgender young people (only 7% identified as a non-binary), and thus our assessment of social gender transition was designed with this population in mind. It is unclear what a "full" or "partial" transition looks like for a non-binary individual. In this type of social

transition, the goal may be to incorporate some mixture of masculine and feminine presentation or to achieve fluidity in gender presentation across contexts. Future studies should not only aim to examine how social transition may impact well-being in non-binary populations (separated out from binary transgender patients) but also identify more accurate ways of operationalizing and measuring what social gender transition means in non-binary pediatric patients. This is important given that non-binary identities are increasingly prevalent in emerging cohorts of gender variant youngsters (Tollit et al., 2023).

Next, mood and anxiety difficulties were assessed as absent or present based on clinician ratings and relevant referral information. This approach lacks standardization and sensitivity to detect differences in psychological functioning between socially transitioned and non-transitioned patients, which exist in the non-clinical range (Durwood et al., 2017; Olson et al., 2016). Future studies should utilize standardized clinical interviews, as well as standardized self- and parent-report scales, when assessing psychological outcomes of social transition to increase sensitivity to detect differences in mental health if they are present.

Clinical Implications

We stress the importance of not over interpreting cross-sectional data such as that presented in this study—nor drawing overly simplistic conclusions from our data (e.g., “social gender transition has no benefit”). It is possible that although our socially transitioned patients did not demonstrate superior well-being compared to their non-transitioned counterparts, they were nevertheless functioning better (either in terms of mood/anxiety or gender dysphoria severity, or both) than their own prior functioning pre-social transition. It is also possible that benefits of social transition were not captured in the present study for other reasons; for instance, they might not have had time to emerge or were canceled out by stresses related to adjustment in the short term (even though socially transitioned cohorts may demonstrate superior functioning in the longer term).

So, what may be a take home for parents, clinicians, and educators? Our data suggest that social gender transition may not render immediate and dramatic alleviation of mental health difficulties for all or most children/adolescents suffering with gender dysphoria. If it did, we would expect to have found some lower prevalence of anxiety or depression in our socially transitioned group. Perhaps our study hints that social gender transition alone, at least in the short term, is no panacea to mental health struggles of young people with gender dysphoria and that clinicians and parents should not expect immediate symptom alleviation specific to gender dysphoria or related to mental health more generally. Ongoing contact with mental health services to support young

people through social gender transitioned related stressors (e.g., concealment stress, transphobia, misgendering, and adjustment of family, peer, and community to the young person's gender) is indicated. Clinically we have observed parents of transgender children lament that their child's distress should have resolved (or resolved more so) now that they have socially transitioned. Although this perspective may be an outlier, we believe it may be present more broadly in clinicians, educators, and parents with only passing familiarity with struggles of young people with gender dysphoria. The present data may encourage relevant parties to set realistic expectations regarding social gender transition (including the need for ongoing parental and clinical care) and encourage a more holistic understanding of the young persons' struggles that also acknowledges how social gender transition may alleviate one set of challenges (e.g., alleviate felt gender incongruence) while introducing some others (e.g., transphobia, concealment/passing stress)—requiring clinical support of a different type (e.g., assertiveness training). Again, we stress that the present findings do not suggest that social gender transition will not have positive impacts for some children/adolescents in the short term or that it may not have positive effects on well-being in the longer term. We would urge these findings not directly inform treatment without weighing findings from other relevant research, including those demonstrating possible benefits of social gender transition (Durwood et al., 2017; Kuvalanka et al., 2017; Olson et al., 2016).

It would be negligent of us not to acknowledge other interpretations of the null effects of social transition on the mental health of young people in our study. Some might argue that our failure to demonstrate an association between social transition status and mental health outcomes is due to social transition not effectively ameliorating distress in the short, medium, or long-term for a substantial proportion of gender dysphoric children and adolescents. While there was no evidence that social transition had deleterious effects on the mental health of young people in our study, some may argue that in the absence of positive benefits of social transition initiating early social transitions should be approached with caution. Some authors have warned of possible “iatrogenic” effects of early social transition, based on data suggesting childhood social transition is associated with an increased likelihood of persistence of gender dysphoria (Steensma et al., 2011, 2013) into adolescence and adulthood. Given a body of data suggests that the majority of cases of childhood onset gender dysphoria desist before adulthood (Singh et al., 2021; Zucker, 2018, 2020), early social transition may increase the likelihood that gender dysphoria will persist and that hormonal and/or surgical transition will be required to alleviate gender-related distress. It should be stressed that it is beyond the scope of the present study to lend to support to this or other interpretations of the data.

Conclusion

The present findings, although preliminary, suggest that social gender transition is not associated with mental health status in children and adolescents, at least in the short term. These findings are consistent with the only other study that directly compared clinic-referred youth experiencing gender dysphoria who had socially transitioned with those who had not (Sievert et al., 2021). Critically, longitudinal research is required in order to make more confident claims about the relationship between social gender transition, mental health, gender dysphoria severity, and the broader psychosocial functioning of young people suffering gender dysphoria.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10508-023-02588-5>.

Acknowledgements We would like to thank Michael Dunsford at the Tavistock and Portman Gender Identity Development Service (GIDS) for developing the associated difficulties assessment form.

Funding Open Access funding enabled and organized by CAUL and its Member Institutions.

Declarations

Conflict of interest The author(s) declare no competing interests.

Ethical Approval All procedures in this study were performed in accordance with the ethical standards of the institutional or national research committee and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Aitken, M., Steensma, T. D., Blanchard, R., VanderLaan, D. P., Wood, H., Fuentes, A., Spegg, C., Wasserman, L., Ames, M., Fitzsimmons, C. L., Leef, J. H., Lishak, V., Reim, E., Takagi, A., Vinik, J., Wreford, J., Cohen-Kettenis, P. T., de Vries, A. L. C., Kreukels, B. P. C., & Zucker, K. J. (2015). Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. *Journal of Sexual Medicine*, 12(3), 756–763. <https://doi.org/10.1111/jsm.12817>
- Axelson, D. A., & Birmaher, B. (2001). Relation between anxiety and depressive disorders in childhood and adolescence. *Depression and Anxiety*, 14(2), 67–78. <https://doi.org/10.1002/da.1048>
- Becerra-Culqui, T. A., Liu, Y., Nash, R., Cromwell, L., Flanders, W. D., Getahun, D., & Goodman, M. (2018). Mental health of transgender and gender nonconforming youth compared with their peers. *Pediatrics*, 141(5), e20173845. <https://doi.org/10.1542/peds.2017-3845>
- Biggs, M. (2022). Suicide by clinic-referred transgender adolescents in the United Kingdom [Letter to the Editor]. *Archives of Sexual Behavior*, 51(2), 685–690. <https://doi.org/10.1007/s10508-022-02287-7>
- Breslow, A. S., Wojcik, H., Cox, R., Tran, N. M., & Brewster, M. E. (2021). Toward nonbinary nuance in research and care: Mapping differences in gender affirmation and transgender congruence in an online national US survey. *Transgender Health*, 6(3), 156–163. <https://doi.org/10.1089/trgh.2020.0038>
- Brunskell-Evans, H., & Moore, M. (Eds.). (2019). *Inventing transgender children and young people*. Cambridge Scholars Publishing.
- de Graaf, N. M., Cohen-Kettenis, P. T., Carmichael, P., de Vries, A. L. C., Dhondt, K., Laridaen, J., & Steensma, T. D. (2018). Psychological functioning in adolescents referred to specialist gender identity clinics across Europe: A clinical comparison study between four clinics. *European Child & Adolescent Psychiatry*, 27(7), 909–919. <https://doi.org/10.1007/s00787-017-1098-4>
- de Vries, A. L., & Cohen-Kettenis, P. T. (2012). Clinical management of gender dysphoria in children and adolescents: The Dutch approach. *Journal of Homosexuality*, 59(3), 301–320. <https://doi.org/10.1080/00918369.2012.653300>
- de Vries, A. L. C., Steensma, T. D., Cohen-Kettenis, P. T., VanderLaan, D. P., & Zucker, K. J. (2016). Poor peer relations predict parent-and self-reported behavioral and emotional problems of adolescents with gender dysphoria: A cross-national, cross-clinic comparative analysis. *European Child & Adolescent Psychiatry*, 25(6), 579–588. <https://doi.org/10.1007/s00787-015-0764-7>
- de Vries, A. L. C., Steensma, T. D., Doreleijers, T. A., & Cohen-Kettenis, P. T. (2011). Puberty suppression in adolescents with gender identity disorder: A prospective follow-up study. *The Journal of Sexual Medicine*, 8(8), 2276–2283. <https://doi.org/10.1111/j.1743-6109.2010.01943.x>
- Drummond, K. D., Bradley, S. J., Peterson-Badali, M., & Zucker, K. J. (2008). A follow-up study of girls with gender identity disorder. *Developmental Psychology*, 44(1), 34–45. <https://doi.org/10.1037/0012-1649.44.1.34>
- Durwood, L., Eisner, L., Fladeboe, K., Ji, C. G., Barney, S., McLaughlin, K. A., & Olson, K. R. (2021). Social support and internalizing psychopathology in transgender youth. *Journal of Youth and Adolescence*, 50(5), 841–854. <https://doi.org/10.1007/s10964-020-01391-y>
- Durwood, L., McLaughlin, K. A., & Olson, K. R. (2017). Mental health and self-worth in socially transitioned transgender youth. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(2), 116–123. <https://doi.org/10.1016/j.jaac.2016.10.016>
- Ehrensaft, D. (2016). *The gender creative child*. The Experiment Publishing.
- Ehrensaft, D., Giammattei, S. V., Storck, K., Tishelman, A. C., & St. Amand, C. (2018). Prepubertal social gender transitions: What we know; what we can learn—A view from a gender affirmative lens. *International Journal of Transgenderism*, 19(2), 251–268. <https://doi.org/10.1080/15532739.2017.1414649>
- Frew, T., Watsford, C., & Walker, I. (2021). Gender dysphoria and psychiatric comorbidities in childhood: A systematic review. *Australian Journal of Psychology*, 73(3), 255–271. <https://doi.org/10.1080/00049530.2021.1900747>
- Ford, T., Goodman, R., & Meltzer, H. (2003). The British child and adolescent mental health survey 1999: The prevalence of DSM-IV disorders. *Journal of the American Academy of Child and*

- Adolescent Psychiatry, 42(10), 1203–1211. <https://doi.org/10.1097/00004583-200310000-00011>
- Holt, V., Skagerberg, E., & Dunsford, M. (2016). Young people with features of gender dysphoria: Demographics and associated difficulties. *Clinical Child Psychology and Psychiatry*, 21(1), 108–118. <https://doi.org/10.1177/1359104514558431>
- Horton, C. (2022). I was losing that sense of her being happy—trans children and delaying social transition. *LGBTQ + Family: an Interdisciplinary Journal*, 18(2), 187–203. <https://doi.org/10.1080/27703371.2022.2076002>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 593–602. <https://doi.org/10.1001/archpsyc.62.6.593>
- Kuvalanka, K. A., Weiner, J. L., Munroe, C., Goldberg, A. E., & Gardner, M. (2017). Trans and gender-nonconforming children and their caregivers: Gender presentations, peer relations, and well-being at baseline. *Journal of Family Psychology*, 31(7), 889–899. <https://doi.org/10.1037/fam0000338>
- Lawrence, A. A. (2010). Sexual orientation versus age of onset as bases for typologies (subtypes) for gender identity disorder in adolescents and adults. *Archives of Sexual Behavior*, 39(2), 514–545. <https://doi.org/10.1007/s10508-009-9594-3>
- Littman, L. (2018). Rapid-onset gender dysphoria in adolescents and young adults: A study of parental reports. *PLoS ONE*, 13(8), e0202330. <https://doi.org/10.1371/journal.pone.0202330>
- Martín-Castillo, D., Jiménez-Barbero, J. A., del Mar Pastor-Bravo, M., Sánchez-Muñoz, M., Fernández-Espín, M. E., & García-Arenas, J. J. (2020). School victimization in transgender people: A systematic review. *Children and Youth Services Review*, 119, 105480. <https://doi.org/10.1016/j.childyouth.2020.105480>
- Matsuno, E., & Budge, S. L. (2017). Non-binary/genderqueer identities: A critical review of the literature. *Current Sexual Health Reports*, 9, 116–120. <https://doi.org/10.1007/s11930-017-0111-8>
- McKean, A. J., Voort, J. L. V., & Croarkin, P. E. (2016). Lack of rating scale normalization and a socioeconomically advantaged population limits the generalizability of preadolescent transgender findings. *Pediatrics*. <https://doi.org/10.1542/peds.2016-1203A>
- Morandini, J. S., Kelly, A., de Graaf, N. M., Carmichael, P., & Dar-Nimrod, I. (2022). Shifts in demographics and mental health co-morbidities among gender dysphoric youth referred to a specialist gender dysphoria service. *Clinical Child Psychology and Psychiatry*, 27(2), 480–491. <https://doi.org/10.1177/13591045211046813>
- Olson, K. R., Durwood, L., DeMeules, M., & McLaughlin, K. A. (2016). Mental health of transgender children who are supported in their identities. *Pediatrics*, 137. <https://doi.org/10.1542/peds.2015-3223>
- Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology*, 5, 311–341. <https://doi.org/10.1146/annurev.clinpsy.032408.153628>
- Restar, A. J. (2020). Methodological critique of Littman's (2018) parental-respondents accounts of "rapid-onset gender dysphoria" [Letter to the Editor]. *Archives of Sexual Behavior*, 49(1), 61–66. <https://doi.org/10.1007/s10508-019-1453-2>
- Riley, E. A., Sitharthan, G., Clemson, L., & Diamond, M. (2011). The needs of gender-variant children and their parents: A parent survey. *International Journal of Sexual Health*, 23(3), 181–195. <https://doi.org/10.1080/19317611.2011.593932>
- Russell, S. T., Pollitt, A. M., Li, G., & Grossman, A. H. (2018). Chosen name use is linked to reduced depressive symptoms, suicidal ideation, and suicidal behavior among transgender youth. *Journal of Adolescent Health*, 63(4), 503–505. <https://doi.org/10.1016/j.jadohealth.2018.02.003>
- Shiffman, M. (2013). *Peer relations in adolescents with gender identity disorder*. Unpublished doctoral dissertation, University of Guelph, Guelph, ON
- Sievert, E. D., Schweizer, K., Barkmann, C., Fahrenkrug, S., & Becker-Hebly, I. (2021). Not social transition status, but peer relations and family functioning predict psychological functioning in a German clinical sample of children with gender dysphoria. *Clinical Child Psychology and Psychiatry*, 26(1), 79–95. <https://doi.org/10.1177/1359104520964530>
- Singh, D., Bradley, S. J., & Zucker, K. J. (2021). A follow-up study of boys with gender identity disorder. *Frontiers in Psychiatry*, 12, 632784. <https://doi.org/10.3389/fpsy.2021.632784>
- Sorbara, J. C., Chiniara, L. N., Thompson, S., & Palmert, M. R. (2020). Mental health and timing of gender-affirming care. *Pediatrics*, 146(4), e20193600. <https://doi.org/10.1542/peds.2019-3600>
- Steensma, T. D., Biemond, R., de Boer, F., & Cohen-Kettenis, P. T. (2011). Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study. *Clinical Child Psychology and Psychiatry*, 16(4), 499–516. <https://doi.org/10.1177/1359104510378303>
- Steensma, T. D., & Cohen-Kettenis, P. T. (2011). Gender transitioning before puberty? [Letter to the Editor]. *Archives of Sexual Behavior*, 40(4), 649–650. <https://doi.org/10.1007/s10508-011-9752-2>
- Steensma, T. D., & Cohen-Kettenis, P. T. (2018). A critical commentary on "A critical commentary on follow-up studies and 'desistence' theories about transgender and gender non-conforming children." *International Journal of Transgenderism*, 19(2), 225–230. <https://doi.org/10.1080/15532739.2018.1468292>
- Steensma, T. D., McGuire, J. K., Kreukels, B. P., Beekman, A. J., & Cohen-Kettenis, P. T. (2013). Factors associated with desistence and persistence of childhood gender dysphoria: A quantitative follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(6), 582–590. <https://doi.org/10.1016/j.jaac.2013.03.016>
- Tankersley, A. P., Gafsky, E. L., Dike, J., & Jones, R. T. (2021). Risk and resilience factors for mental health among transgender and gender nonconforming (TGNC) youth: A systematic review. *Clinical Child and Family Psychology Review*, 24(2), 183–206. <https://doi.org/10.1007/s10567-021-00344-6>
- Temple Newhook, J., Pyne, J., Winters, K., Feder, S., Holmes, C., Tosh, J., & Pickett, S. (2018). A critical commentary on follow-up studies and "desistance" theories about transgender and gender-nonconforming children. *International Journal of Transgenderism*, 19(2), 212–224. <https://doi.org/10.1080/15532739.2018.1456390>
- Thompson, L., Sarovic, D., Wilson, P., Sæmfjord, A., & Gillberg, C. (2022). A PRISMA systematic review of adolescent gender dysphoria literature: Mental health. *PLOS Global Public Health*, 2(5), e0000426. <https://doi.org/10.1001/jamapediatrics.2018.1817>
- Tollit, M. A., May, T., Maloof, T., Telfer, M. M., Chew, D., Engel, M., & Pang, K. (2023). The clinical profile of patients attending a large, Australian pediatric gender service: A 10-year review. *International Journal of Transgender Health*, 24, 55–69. <https://doi.org/10.1080/26895269.2021.1939221>
- Toomey, R. B., Syvertsen, A. K., & Shramko, M. (2018). Transgender adolescent suicide behavior. *Pediatrics*, 142(4), e20174218. <https://doi.org/10.1542/peds.2017-4218>
- Van der Miesen, A. I., Nabbijohn, A. N., Santarossa, A., & VanderLaan, D. P. (2018). Behavioral and emotional problems in gender-nonconforming children: A Canadian community-based study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(7), 491–499. <https://doi.org/10.1016/j.jaac.2018.03.015>
- Wallien, M. S., & Cohen-Kettenis, P. T. (2008). Psychosexual outcome of gender-dysphoric children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(12), 1413–1423. <https://doi.org/10.1097/CHI.0b013e31818956b9>
- Wong, W., & Drake, S. J. (2017). A qualitative study of transgender children with early social transition: Parent perspectives and clinical

- implications. *PEOPLE: International Journal of Social Sciences*, 3(2), 1970–1985. <https://doi.org/10.20319/pijss.2017.32.19701985>
- Wong, W. I., van der Miesen, A. I., Li, T. G., MacMullin, L. N., & VanderLaan, D. P. (2019). Childhood social gender transition and psychosocial well-being: A comparison to cisgender gender-variant children. *Clinical Practice in Pediatric Psychology*, 7(3), 241–253. <https://doi.org/10.1037/cpp0000295>
- Zucker, K. J. (2018). The myth of persistence: Response to “A critical commentary on follow-up studies and ‘desistance’ theories about transgender and gender non-conforming children” by Temple Newhook et al. *International Journal of Transgenderism*, 19(2), 231–245. <https://doi.org/10.1080/15532739.2018.1468293>
- Zucker, K. J. (2020). Debate: Different strokes for different folks. *Child and Adolescent Mental Health*, 25(1), 36–37. <https://doi.org/10.1111/camh.12330>
- Zucker, K. J., Lawrence, A. A., & Kreukels, B. P. (2016). Gender dysphoria in adults. *Annual Review of Clinical Psychology*, 12(1), 217–247. <https://doi.org/10.1146/annurev-clinpsy-021815-093034>
- Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



OPEN ACCESS

Impact of social transition in relation to gender for children and adolescents: a systematic review

Ruth Hall, Jo Taylor , Catherine Elizabeth Hewitt , Claire Heathcote, Stuart William Jarvis, Trilby Langton, Lorna Fraser

► Additional supplemental material is published online only. To view, please visit the journal online (<https://doi.org/10.1136/archdischild-2023-326112>).

Department of Health Sciences, University of York, York, UK

Correspondence to

Professor Catherine Elizabeth Hewitt, Department of Health Sciences, University of York, York, UK; dohs-gender-research@york.ac.uk

Received 25 July 2023

Accepted 28 October 2023



- <http://dx.doi.org/10.1136/archdischild-2023-326347>
- <http://dx.doi.org/10.1136/archdischild-2023-326348>
- <http://dx.doi.org/10.1136/archdischild-2023-326499>
- <http://dx.doi.org/10.1136/archdischild-2023-326500>
- <http://dx.doi.org/10.1136/archdischild-2023-326669>
- <http://dx.doi.org/10.1136/archdischild-2023-326670>
- <http://dx.doi.org/10.1136/archdischild-2023-326760>
- <http://dx.doi.org/10.1136/archdischild-2023-326681>



Check for updates

© Author(s) (or their employer(s)) 2024. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

To cite: Hall R, Taylor J, Hewitt CE, et al. *Arch Dis Child* Epub ahead of print: [please include Day Month Year]. doi:10.1136/archdischild-2023-326112

ABSTRACT

Background Increasing numbers of children and adolescents experiencing gender dysphoria or incongruence are being referred to specialist gender services. Historically, social transitioning prior to assessment was rare but it is becoming more common.

Aim To identify and synthesise studies assessing the outcomes of social transition for children and adolescents (under 18) experiencing gender dysphoria/incongruence.

Methods A systematic review and narrative synthesis. Database searches (Medline, Embase, CINAHL, PsycINFO, Web of Science) were performed in April 2022. Studies reporting any outcome of social transition (full or partial) for children and adolescents experiencing gender dysphoria/incongruence were included. An adapted version of the Newcastle-Ottawa Scale for cohort studies was used to appraise study quality.

Results Eleven studies were included (children (n=8) and adolescents (n=3)) and most were of low quality. The majority were from the US, featured community samples and cross-sectional analyses. Different comparator groups were used, and outcomes related to mental health and gender identity reported. Overall studies consistently reported no difference in mental health outcomes for children who socially transitioned across all comparators. Studies found mixed evidence for adolescents who socially transitioned.

Conclusions It is difficult to assess the impact of social transition on children/adolescents due to the small volume and low quality of research in this area. Importantly, there are no prospective longitudinal studies with appropriate comparator groups assessing the impact of social transition on mental health or gender-related outcomes for children/adolescents. Professionals working in the area of gender identity and those seeking support should be aware of the absence of robust evidence of the benefits or harms of social transition for children and adolescents.

PROSPERO registration number CRD42021289659.

INTRODUCTION

The number of children and adolescents identifying as a gender different from the sex they were registered as at birth has increased markedly across the world over the last 10–15 years.¹ While there is no single definition of the term social transition, it is broadly understood to refer to social changes such as name change, using different pronouns or altering hair or clothing in order to live socially as a different gender,^{2,3} but the degree and context of a social transition can vary widely. For some, using

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Increasing numbers of children and adolescents experiencing gender dysphoria/incongruence are being referred for care at specialist paediatric gender services.
- ⇒ Historically, social transitioning prior to assessment in gender services was rare. Social role transition is increasingly common in children and adolescents.
- ⇒ The rates of mental health conditions in children/adolescents experiencing gender dysphoria/incongruence are higher than those of the general population.

WHAT THIS STUDY ADDS

- ⇒ The evidence base for all outcomes of social transitioning in childhood or adolescence is both limited and of low quality.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Guidelines should reflect the limited evidence regarding the outcomes of social transition for children and adolescents experiencing gender dysphoria/incongruence. Robust high-quality research is needed.

a preferred name or clothing may be limited to home while others may change their name officially and seek to make changes across all social settings. Additionally, some may publicly acknowledge that they have made a social transition while others may wish to keep their birth-registered sex private and only known by a few significant others.

Social transition is becoming more common with children and adolescents changing key social characteristics to fit more closely with a different gender role. Children and adolescents presenting at gender services are increasingly likely to have undergone a full social transition. In the UK, 54.6% of children and adolescents referred to the Gender Identity Development Service in 2012–2013 had socially transitioned,⁴ with increasing numbers internationally.^{5–7}

Social transition among children is contentious with diverging views between clinicians as to its role and potential benefits or harms.^{3,8} Social transition can be regarded as important for a child's mental health and well-being with a child leading the way in their gender expression, in line with a model of gender affirming care.^{3,8} Social transition is also seen as a significant intervention which

may alter the course of gender development with medical and surgical interventions being sought by children whose gender dysphoria/incongruence might not have otherwise persisted beyond puberty.⁹ Guidelines for children and adolescents experiencing gender dysphoria/incongruence published by the World Professional Association for Transgender Health (WPATH),¹⁰ with version 8 published in 2022,¹¹ have shifted from recommending an approach to social transition of 'watchful waiting' for children, to a position of advocating for social transition as a way to improve a child's mental health. Social transitioning among adolescents has not received the same level of interest in academic debate, nor do WPATH version 7 or 8 contain any specific discussion about the risks or benefits for adolescents.

Understanding what the evidence shows about possible benefits or harms is important for children and adolescents experiencing gender dysphoria/incongruence, parents who may be contemplating their child socially transitioning and for health-care professionals and others whose advice and support may be sought on this question. Therefore, this systematic review aimed to synthesise primary research on outcomes related to social transition for children and adolescents experiencing gender dysphoria/incongruence.

METHODS

The review forms part of a linked series of systematic reviews examining the epidemiology, care pathways, outcomes and experiences for children and adolescents experiencing gender dysphoria/incongruence and is reported according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.¹² The protocol was registered on PROSPERO (CRD42021289659).¹³

Search strategy

A single search strategy was developed to identify studies examining gender dysphoria/incongruence in children/adolescents (see online supplemental file 1). The following bibliographic databases were searched with no date restrictions: MEDLINE (OVID), EMBASE (OVID), CINAHL (EBSCO), PsycINFO (OVID) and Web of Science (Social Science Citation Index). The first search was conducted between 13 and 23 May 2021 and updated on 27 April 2022. The reference lists of eligible studies and any relevant systematic reviews or clinical guidelines that were identified were also checked.

Inclusion criteria

Studies were included in relation to the following criteria:

Population: children and adolescents up to age 18, or adults who experienced as a child/adolescent, gender dysphoria/incongruence or gender-related distress, or referral to a paediatric/adolescent gender identity service.

Intervention/exposure: a broad definition of social transition was adopted including any element of what is commonly understood to comprise a social transition,³ for example, name change, use of pronouns, change in appearance.

Outcomes: any outcome of social transition in childhood or adolescence (eg, mental health).

Study design: primary studies published in English in a peer-reviewed journal of any design apart from case series and case reports.

Study selection

All search results were entered into Covidence and deduplicated.¹⁴ Two reviewers independently assessed all titles and

abstracts and full texts of those identified as potentially eligible. Conflicts were resolved through discussion or consensus with a third reviewer.

Data extraction

Data were extracted by one reviewer and second-checked by another. Replication of participants across studies was noted.

Quality assessment

Quality was assessed using a modified version of the Newcastle-Ottawa Scale,¹⁵ a validated scale of eight items assessed across three domains: selection, comparability and outcome. Modification included, not scoring question(s) related to cross-sectional or longitudinal studies where relevant. The maximum possible score was 8. A score of 0–3.5 was deemed low quality, 4–5.5 moderate and 6–8 high. Two reviewers rated the papers independently with discussion to reach consensus.

Synthesis methods

Due to extensive differences in definition of social transition and measurement and reporting of outcomes, a narrative approach to synthesis and, where feasible an analysis of p values, effect direction and vote counting were used. The synthesis of data was led by the main comparisons in the included studies: child/adolescent, outcome and comparison group. Strength and direction of effects of social transition on outcomes was analysed from reported p values using albatross plots.¹⁶ Vote counting¹⁷ was also conducted and combined with quality assessment scores using harvest plots¹⁸ and bar charts showing the number of studies reporting effects by direction and quality scores.

RESULTS

Overall, the searches identified 28 147 records, of which 3181 were considered as potentially relevant for the linked series of systematic reviews. From these, 13 studies were identified as relevant to this review of social transition.^{19–31} On closer inspection, four studies were excluded: social transition not treated as an exposure (n=3)^{22 24 26} or replication of analyses already published (n=1).²⁵ Two studies were identified as meeting the inclusion criteria from reference lists of guidelines^{32 33} (figure 1). Therefore, 11 studies were included in this review.

Study characteristics

Of the included studies, eight were cross-sectional,^{19–21 23 27 28 30 33} one was a reanalysis of previously published cross-sectional data,³¹ one a prospective longitudinal study,³² and one a retrospective cohort study.²⁹ The majority (n=7) were conducted in the US and/or Canada^{19 21 23 27 30–32}; two in the Netherlands^{29 33}; one in Brazil²⁰ and one in Germany.²⁸ Community samples were recruited in eight studies^{19–21 23 27 30–32} and gender service patients were recruited in three studies^{28 29 33} (online supplemental table 1).

Five US studies^{19 21 23 30 32} included participants from the TransYouth Project, which is a longitudinal study of gender development among socially transitioned prepubertal children experiencing gender dysphoria/incongruence (age 3–12 years at start of study in 2013).²⁴ Four studies reported results from cross-sectional analyses of the cohort,^{19 21 23 30} and one study from longitudinal analyses.³² Children and their families were recruited to this cohort using convenience sampling from support groups (online and face to face) and the sample includes more children from affluent families than expected. Most had parents supportive of early social transition. There is some crossover

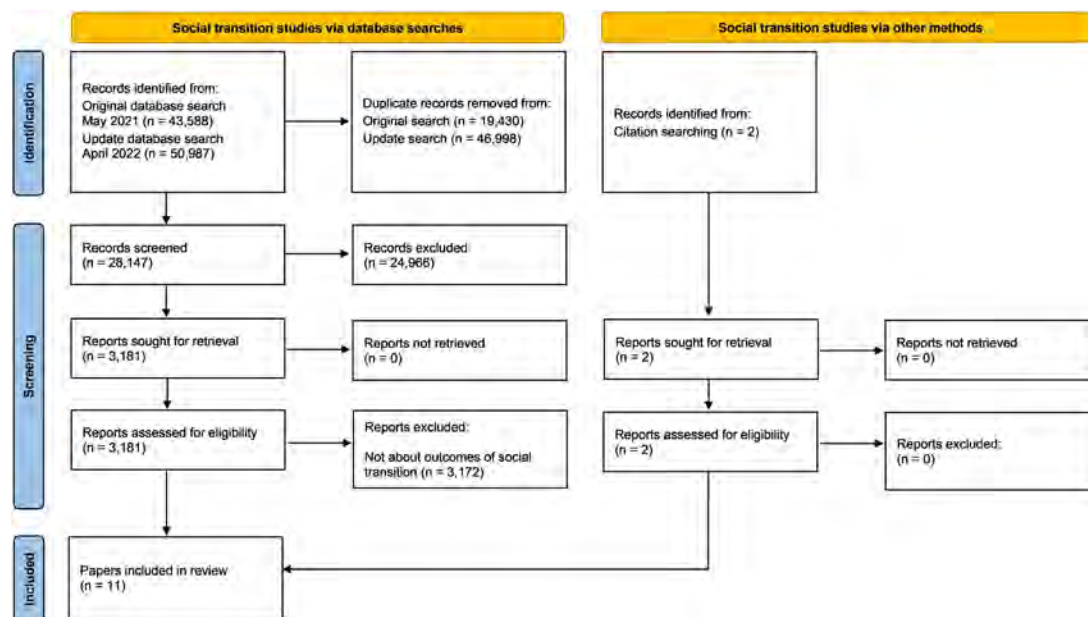


Figure 1 Study flow diagram.

of the samples between these studies but, as they are reporting different outcomes or child versus parent reports, all five studies were included. Two studies from the Amsterdam clinical population may also include overlapping samples, but this cannot be quantified so both were included.^{29 33}

Children and/or adolescents were recruited in eight studies,^{19 21 23 28 29 31–33} and two studies recruited a mixed group of adolescents and young adults.^{20 27} The final study recruited adults with a history of childhood/adolescent gender dysphoria/incongruence and created subgroups based on age of social transition (3–9 years childhood, 10–17 years adolescence, 18+ years adulthood).³⁰ How gender identity and/or gender dysphoria/incongruence were determined and definitions of social transition and how this was established varied between studies (online supplemental table 1).

A range of mental health outcomes were reported across nine studies^{19–21 23 27 28 30 31 33}; internalising symptoms, externalising

symptoms, self-worth, self-esteem, self-perception, suicidality, severe psychological distress, and drug and alcohol misuse. One study also included measures of gender positivity and gender distress.²⁰ The remaining two studies focused on the constancy of gender identity across time as the outcome.^{29 32}

Quality assessment

Overall, the quality of the papers was low to moderate with scores ranging from 1.5 to 5 (figure 2). Across all studies, the key methodological limitation was the approach to recruitment, relying on self-selecting groups or referral to gender services leading to samples which were unrepresentative of the broader population. A follow-up period between social transition and outcomes being measured was reported in three studies,^{29 30 32} one of which relied on recall from adulthood.³⁰



Figure 2 Quality scores for included studies assessed using a modified Newcastle-Ottawa Scale. The grid indicates individual scores for each study on each of the criteria. Bars at the top (and numbers at top of bars) indicate overall score. SES, socioeconomic status.

Three studies used a standardised method of ascertaining social transition.^{28 29 33} The remaining studies used parent or self-report measures. All studies controlled or matched to some extent for age, birth-registered sex or gender identity, and socioeconomic status, however, three additionally controlled for baseline parental/family support.^{27 28 30}

Seven studies used a comparison group drawn from the same population.^{20 27-31 33} None of the studies using community samples of children included a suitable comparison group. Three studies compared children experiencing gender dysphoria/incongruence who had socially transitioned with a comparator group presumed not to experience gender dysphoria/incongruence, which included average population scores, and/or sibling and matched controls.^{19 21 23} One study used previously published data for children with the same level of gender variance who had not socially transitioned,³¹ however, they were reported by parents as having a gender identity that matched their birth-registered sex and so were not from the same population.

FINDINGS

The findings are presented in online supplemental table 2 and a visual summary of key outcomes is provided in figure 3.

Socially transitioned children

Six studies reported outcomes related to mental health^{19 21 23 28 31 33} and two studies reported gender stability/persistence.^{29 32}

Comparison group A: children not experiencing gender dysphoria/incongruence

Four studies reported mental health outcomes^{19 21 23 31} (figure 3A). Three studies using the TransYouth Project data^{19 21 23} found no significant difference in depressive symptoms compared with population averages,^{19 23} siblings or matched controls across parent^{19 21 23} and self-reported measures.^{19 21}

Variation was seen in results for levels of anxiety across groups and between parent and self-report measures.^{19 21 23} Parent-reported levels of anxiety were significantly higher than population averages^{19 23} or matched controls,^{19 21 23} but this was not seen for self-report comparisons to population averages,¹⁹ and there were inconsistent results for the comparisons with matched controls.^{19 23} No significant, although some marginal, differences were seen in anxiety levels when compared to siblings across parent and self-reported measures.^{19 21 23} Self-worth was explored in a single study and not found to be significantly different from matched controls or siblings.¹⁹

One study used data from three published studies^{22 23 34} to make comparisons between children who socially transitioned and children who were gender variant but who identified with their birth-registered sex.³¹ They found no significant differences in parent-reported internalising scores, externalising symptoms or poor peer relations.

Comparison group B: children experiencing gender dysphoria/incongruence who have not socially transitioned

Three studies used this comparator^{28 30 33} (figure 3B).

One clinic-based study found that the degree to which a child had socially transitioned was not associated with psychological functioning,²⁸ rather, socioeconomic status and poor peer relations were associated with internalising problems, and general family functioning and poor peer relations were associated with externalising problems. Another clinic-based study found no association between social transition status and any element of self-perception.³³ However, it found some differences when

the sample was stratified by sex; birth-registered males who had socially transitioned reported poorer self-perception in scholastic competence and behavioural conduct compared with non-socially transitioned birth-registered males.³³ Conversely, birth-registered females who had socially transitioned scored higher on athletic competence than non-socially transitioned birth-registered females.

The third study's comparison group were transgender adults who experienced gender dysphoria/incongruence as a child but did not socially transition until adulthood.³⁰ They looked at past-month severe psychological distress, lifetime illicit drug use, lifetime marijuana use, past-month binge drinking, and various measures of suicidality. The only significant result in either direction was lower odds of lifetime use of marijuana for those socially transitioning in childhood. Harassment based on gender identity during kindergarten to year 12 was not considered within the initial analysis, but post hoc analyses found that those who socially transitioned in childhood were significantly more likely to have been subject to harassment due to being thought of as transgender than those socially transitioning in adulthood. The study made no adjustment for other confounding variables when considering likelihood of harassment between groups that socially transitioned at different ages.

Socially transitioned adolescents

Comparison group C: adolescents experiencing gender dysphoria/incongruence who have not socially transitioned

Three studies used this comparator group^{20 27 30} (figure 3C).

Internalising symptoms were assessed by two studies.^{20 27} Adolescents who preferred to be called by another name compared with no preferred name use reported fewer symptoms of depression but there was no significant difference in anxiety.²⁰ In another study it was found that among those with a preferred name, chosen name use in more social contexts was associated with fewer depressive symptoms.²⁷

One study assessed severe psychological distress and found no significant association between social transition in adolescence compared with adulthood.³⁰ Outcomes related to suicide and suicidal ideation were assessed in two studies.^{27 30} It was found that chosen name use in more contexts was associated with lower suicidal ideation and behaviour,²⁷ and social transition during adolescence was associated with greater odds of past-year suicidal ideation and lifetime suicide attempts compared with transition during adulthood.³⁰ In the latter paper, six different measures of suicidality were explored and these were the only significant findings (online supplemental table 2).

A single study reported gender-related outcomes.²⁰ Adolescents who preferred to be called by another name compared with no preferred name use reported higher levels of gender distress but there was no significant difference in gender positivity.

Comparison group: socially transitioned children

Only one study compared outcomes between children who socially transitioned and those transitioning in adolescence, and found no difference on any measure of mental health, suicidality or drug and alcohol use between the two groups.³⁰

Gender identity outcomes

Two studies assessed gender identity outcomes.^{29 32} One study found a higher odds of persistence of gender dysphoria/incongruence in adolescence for children who had socially transitioned compared with those who had not socially transitioned. Analysis by birth-registered sex showed significant findings for

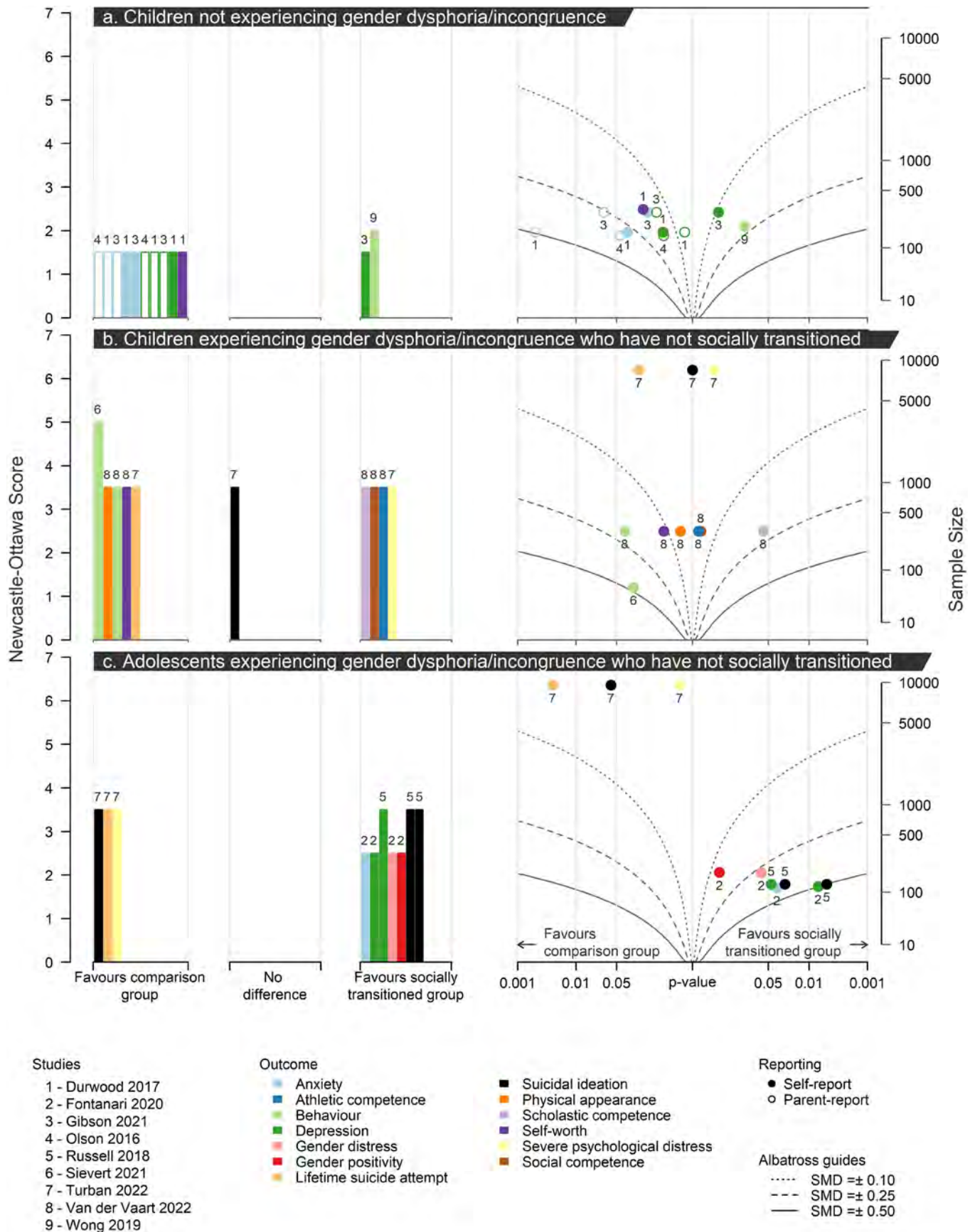


Figure 3 Harvest plots showing direction of effect and quality scores (left) and albatross plots showing direction of effect, statistical significance and sample size (right) for included studies. Panels a, b and c separate studies into those comparing social transition against either those not experiencing gender dysphoria/incongruence (a) or those experiencing gender dysphoria/incongruence who have not socially transitioned (b, c), and also separates studies for children (a, b) and adolescents (c). SMD, standardised mean difference.

birth-registered males but not for birth-registered females.²⁹ Another study found that 92.7% of those who socially transitioned between ages 3 and 12 continued to experience gender dysphoria/incongruence at the end of the study (on average, 5.4 years after socially transitioning).³² The other 7.3% 're-transitioned' at least once; 2.5% identified with their birth-registered sex, 3.5% identified as non-binary and 1.3% had retransitioned twice. They found those socially transitioning before age 6 were more likely to retransition than those socially transitioning after age 6. There was no association between birth-registered sex and retransitioning.³²

DISCUSSION

There is limited, low-quality evidence on the impact of social transition for children and adolescents experiencing gender dysphoria/incongruence. Most published studies are cross-sectional with non-representative samples and lack an appropriate comparator group, and most studies were undertaken in the US. Of note, there are no prospective longitudinal studies with appropriate comparator groups which have assessed the impact of social transition on the mental health or gender-related outcomes for children or adolescents.

Given the poor quality of studies and multiple comparisons across studies, all findings from this review should be interpreted with caution. There were also inconsistent results between studies. For example, two studies suggest there may be some benefit associated with use of chosen name in adolescence.²⁰⁻²⁷ However, in another study lifetime suicide attempt and past-year suicidal ideation was higher among those socially transitioning as adolescents compared with those socially transitioning in adulthood.³⁰

Social transition has become the subject of clinical and academic debate, mainly centred on whether social transition is an active intervention with potential for benefits as well as risks or longer term consequences. Questions focus on the ways in which a social transition might alter the trajectory and development of gender identity and dysphoria/incongruence over time. Those concerned about altering the course of gender development in children cite previous studies demonstrating that only small numbers of prepubertal children who experienced gender dysphoria/incongruence continued to experience this after puberty. Published estimates on those 'persisting' range from 2% to 39% with an average of 15%.³⁵ The concern then is that if children undergo an early social transition they may find it difficult to socially revert to their former gender.² By extension, some children may also then unnecessarily pursue medical and surgical interventions, so raising concerns about iatrogenic harm.⁹

In this review, two studies suggest that children who socially transition are more likely to continue to experience gender dysphoria/incongruence in adolescence, though one study found differences by birth-registered sex.^{29 32} One of these studies also reported that the majority of those who socially transitioned progressed to medical interventions.³²

There has been a shift over time in recommendations around social transitioning for children. In WPATH version 7¹⁰ the evidence base was insufficient to understand long-term outcomes of an early social transition and therefore it advised, in line with a watchful waiting approach, that parents treat social transition as ongoing exploration rather than an 'irreversible situation'. Furthermore, it suggested that healthcare professionals could provide support in finding 'in-between' solutions rather than recommending full social transition. However, WPATH version 8¹¹ advocates more strongly in favour of childhood

social transition, although continues to recommend psychosocial care to support gender exploration for prepubertal children. Three main arguments are put forward for supporting social transition; first, that there is now evidence of improved mental health outcomes; second, that fluidity of identity is an insufficient justification not to socially transition; and third, that not allowing a child to socially transition may in itself be harmful. These statements are not supported from the findings of this systematic review.

Social transitioning among adolescents has not been subject to the same level of debate as for children and there are no specific recommendations in either version of the WPATH guidelines. Version 7 states that adolescents are more likely to persist in their gender identity than children, citing a study in which adolescents were prescribed puberty suppression³⁶ and acknowledge the lack of prospective studies. Version 8 includes a separate chapter for adolescents containing recommendations that healthcare professionals should '*work with parents, schools and other organisations to promote acceptance and affirmation for instance through using preferred pronouns, preferred name, and supporting choices of clothing and hairstyle*'. There is not, however, discussion about potential benefits or harms of social transition and indeed no mention of this term.

This review has shown that we have little evidence of the benefits or harms of social transition for children and adolescents.

Strengths and limitations

Strengths include a published protocol with robust search strategies and comprehensive synthesis. The review only included studies published in English which is a limitation. The primary research included in this review was of low quality which limited the conclusions that could be drawn. As searches were conducted in April 2022 this review does not include more recently published studies; as this is a rapidly evolving area this is a limitation.

There is an urgent need to undertake high-quality and robust research to address the key unanswered questions:

1. Does social transition alter the trajectory of gender development?
2. Does social transition improve (or worsen) gender dysphoria?
3. Does social transition improve mental health outcomes?
4. What is the relationship between socially transitioning and outcomes not examined (eg, impact on peer relations/social difficulties, quality of life, body satisfaction)?
5. What are the long-term outcomes of social transition?

CONCLUSIONS

The studies included in this review are of low quality, therefore, it is difficult to assess the impact of social transition in this population. Importantly, there are no prospective longitudinal studies with appropriate comparator groups which have assessed the impact of social transition on the mental health or gender-related outcomes for children or adolescents experiencing gender dysphoria/incongruence. Healthcare professionals, clinical guidelines and advocacy organisations should acknowledge the lack of robust evidence of the benefits or harms of social transition when working with children, adolescents and their families.

Contributors LF, CEH and TL contributed to the conception and design of this review. Data collection was led by CH, JT and RH. Analyses were undertaken by RH, SWJ and LF. RH drafted the first version of the manuscript. All authors reviewed the manuscript prior to submission. CEH accepts full responsibility for the finished work

and/or the conduct of the study, had access to the data, and controlled the decision to publish.

Funding This work was funded by NHS England to inform the Cass Review (Independent review of gender identity services for children and young people). The funder and Cass Review team had a role in commissioning the research programme but no role in the study conduct, interpretation or conclusion.

Competing interests None declared.

Patient consent for publication Not applicable.

Provenance and peer review Commissioned; externally peer reviewed.

Data availability statement Data sharing is not applicable as no datasets were generated and/or analysed for this study.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iDs

Jo Taylor <http://orcid.org/0000-0001-5898-0900>

Catherine Elizabeth Hewitt <http://orcid.org/0000-0002-0415-3536>

REFERENCES

- Thompson L, Sarovic D, Wilson P, *et al.* A PRISMA systematic review of adolescent gender dysphoria literature: 1) epidemiology. *PLOS Glob Public Health* 2022;2:e0000245.
- Steensma TD, Cohen-Kettenis PT. Gender transitioning before puberty. *Arch Sex Behav* 2011;40:649–50.
- Ehrensaft D, Giammattei SV, Storck K, *et al.* Prepubertal social gender transitions: what we know; what we can learn—a view from a gender affirmative lens. *Int J Transgend* 2018;19:251–68.
- Holt V, Skagerberg E, Dunsford M. Young people with features of gender dysphoria: demographics and associated difficulties. *Clin Child Psychol Psychiatry* 2016;21:108–18.
- Chiniara LN, Bonifacio HJ, Palmert MR. Characteristics of adolescents referred to a gender clinic: are youth seen now different from those in initial reports. *Horm Res Paediatr* 2018;89:434–41.
- Condat A, Mendes N, Cohen D. Variations in genital development, gender identities and consent to care. Rue Camille Desmoulins, Issy Les Moulineaux Elsevier Masson SAS; 2022. 418–23.
- De Castro C, Solerdelcoll M, Plana MT, *et al.* High persistence in Spanish transgender minors: 18 years of experience of the gender identity unit of catalonia. *Revista de Psiquiatria y Salud Mental* 2022.
- Hidalgo MA, Ehrensaft D, Tishelman AC, *et al.* The gender affirmative model: what we know and what we aim to learn. *Hum Dev* 2013;56:285–90.
- Zucker KJ. Debate: different strokes for different folks. *Child Adolesc Ment Health* 2020;25:36–7.
- Coleman E, Bockting W, Botzer M, *et al.* Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *Int J Transgend* 2012;13:165–232.
- Coleman E, Radix AE, Bouman WP, *et al.* Standards of care for the health of transgender and gender diverse people, version 8. *Int J Transgend Health* 2022;23(Suppl 1):S1–259.
- Page MJ, McKenzie JE, Bossuyt PM, *et al.* Updating guidance for reporting systematic reviews: development of the PRISMA 2020 statement. *J Clin Epidemiol* 2021;134:103–12.
- Fraser L, Hall R, Taylor J, *et al.* The epidemiology, management and outcomes of children with gender-related distress / gender dysphoria: a systematic review. *PROSPERO 2021:CRD42021289659*.
- Veritas Health Innovation. *Covidence systematic review software*. Melbourne, Australia: Veritas Health Innovation, 2023.
- Stang A. Critical evaluation of the Newcastle-Ottawa scale for the assessment of the quality of nonrandomized studies in meta-analyses. *Eur J Epidemiol* 2010;25:603–5.
- Harrison S, Jones HE, Martin RM, *et al.* The albatross plot: a novel graphical tool for presenting results of diversely reported studies in a systematic review. *Res Synth Methods* 2017;8:281–9.
- McKenzie JE, Brennan SE. Synthesizing and presenting findings using other methods. In: *Cochrane handbook for systematic reviews of interventions*. 2019: 321–47.
- Ogilvie D, Fayer D, Petticrew M, *et al.* The harvest plot: a method for Synthesising evidence about the differential effects of interventions. *BMC Med Res Methodol* 2008;8:8.
- Durwood L, McLaughlin KA, Olson KR. Mental health and self-worth in socially transitioned transgender youth. *J Am Acad Child Adolesc Psychiatry* 2017;56:116–23.
- Fontanari AMV, Vilanova F, Schneider MA, *et al.* Gender affirmation is associated with transgender and gender nonbinary youth mental health improvement. *LGBT Health* 2020;7:237–47.
- Gibson DJ, Glazier JJ, Olson KR. Evaluation of anxiety and depression in a community sample of transgender youth. *JAMA Netw Open* 2021;4:e214739.
- Kuvalanka KA, Weiner JL, Munroe C, *et al.* Trans and gender-nonconforming children and their caregivers: gender presentations, peer relations, and well-being at baseline. *J Fam Psychol* 2017;31:889–99.
- Olson KR, Durwood L, DeMeules M, *et al.* Mental health of transgender children who are supported in their identities. *Pediatrics* 2016;137:e20153223.
- Olson KR, Gülgöz S. Early findings from the transyouth project: gender development in transgender children. *Child Dev Perspectives* 2018;12:93–7.
- Pollitt AM, Ioverno S, Russell ST, *et al.* Predictors and mental health benefits of chosen name use among transgender youth. *Youth Soc* 2019;2019:320–41.
- Rae JR, Gülgöz S, Durwood L, *et al.* Predicting early-childhood gender transitions. *Psychol Sci* 2019;30:669–81.
- Russell ST, Pollitt AM, Li G, *et al.* Chosen name use is linked to reduced depressive symptoms, suicidal ideation, and suicidal behavior among transgender youth. *J Adolesc Health* 2018;63:503–5.
- Sievert ED, Schweizer K, Barkmann C, *et al.* Not social transition status, but peer relations and family functioning predict psychological functioning in a German clinical sample of children with gender dysphoria. *Clin Child Psychol Psychiatry* 2021;26:79–95.
- Steensma TD, McGuire JK, Kreukels BPC, *et al.* Factors associated with desistence and persistence of childhood gender dysphoria: a quantitative follow-up study. *J Am Acad Child Adolesc Psychiatry* 2013;52:582–90.
- Turban JL, King D, Li JJ, *et al.* Timing of social transition for transgender and gender diverse youth, K-12 harassment, and adult mental health outcomes. *J Adolesc Health* 2021;69:991–8.
- Wong WI, van der Miesen AIR, Li TGF, *et al.* Childhood social gender transition and psychosocial well-being: a comparison to cisgender gender-variant children. *Clin Pract Pediatr Psychol* 2019;7:241–53.
- Olson KR, Durwood L, Horton R, *et al.* Gender identity 5 years after social transition. *Pediatrics* 2022;150:e2021056082.
- van der Vaart LR, Verveen A, Bos HM, *et al.* Differences in self-perception and social gender status in children with gender incongruence. *Clin Child Psychol Psychiatry* 2022;27:1077–90.
- van der Miesen AIR, Nabbijohn AN, Santarossa A, *et al.* Behavioral and emotional problems in gender-nonconforming children: a Canadian community-based study. *J Am Acad Child Adolesc Psychiatry* 2018;57:491–9.
- Ristori J, Steensma TD. Gender dysphoria in childhood. *Int Rev Psychiatry* 2016;28:13–20.
- de Vries ALC, Steensma TD, Doreleijers TAH, *et al.* Puberty suppression in adolescents with gender identity disorder: a prospective follow-up study. *J Sex Med* 2011;8:2276–83.

Supplemental Table 1 – Study Characteristics. Please note terminology is reported as per authors of original papers.

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
Durwood, 2017 (19), US and Canada	Cross-sectional with matched controls Community	For anxiety and depression measures: N = 164 (n = 63 socially transitioned transgender children, age 9-14y, mean age 10.8, SD 1.3, birth-registered males 48%; n = 63 cisgender controls, mean age 10.9, SD 1.4, birth-registered males 52%; n = 38 cisgender siblings, mean age 10.6, SD 1.2, birth-registered males 55%) For self-worth measures N = 310 (n = 116 socially transitioned transgender children, age 6-14y, mean age 9.3y, SD 2.0), birth-registered males 59%; n = 122, mean age 9.2, SD 2.0, birth-registered males 40%; n = 72 siblings, mean age 9.1, SD 1.8, birth-	Children included as transgender if they were reported by parents as identifying as the gender opposite to their birth-registered sex in everyday life	Full social transition: use of the pronouns associated with their asserted gender in all contexts	Two control groups of non-transgender children: 1.Age and gender identity matched controls 2.Siblings of transgender participants in the broader Trans Youth Project	None	Depression Anxiety Self-worth	Depression and anxiety symptoms - children completed paediatric short form PROMIS, and parents completed parental proxy short form For self-worth, children completed the Global self-worth Subscale from the Harter Self-perception profile for children

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
		registered males 56%)						
Fontanari, 2020 (20), Brazil	Cross-sectional Community	N = 350 transgender and nonbinary youth Of the total with a preferred name, n = 326 Of the total able to express their true gender n = 349 Age 16-24y (mean 18.61, SD not reported) birth-registered sex % not reported.149 self- identified as transgender boys, 85 as transgender girls and 116 as nonbinary.	Participants included if their answers to a two-part question about self-reported gender identity and sex at birth did not align. Participants then divided into categories ‘transgender girls’, ‘transgender boys’ or ‘gender nonbinary’ by researchers	Social affirmation: Use of preferred name by mother and/or father Able to express their gender identity in everyday life (no further detail provided)	For those with a preferred name a comparison was made between those whose mother or father used their name always, sometimes, or never For those able to express their true gender a comparison was made between those able to do so all of the time, half of the time, or never.	None	Anxiety Depression Gender Distress Gender positivity	The Overall Anxiety Severity and Impairment Scale (OASIS), the Modified Depression Scale (MDS), the Gender Distress Scale, and Gender positivity scale (GPS)

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
Gibson, 2021 (21) US and Canada	Cross-sectional with matched controls Community	N = 375 (n = 148 socially transitioned transgender children, age 8-14y, mean age 10.1, SD 1.0), birth-registered males: 64%; n = 139 cisgender controls, mean age 10.1, SD 1.0, birth-registered males 35%; n = 88 cisgender siblings, mean age 10.2, SD 1.2, birth-registered males 53%)	Children needed to use the pronouns opposite their birth-registered sex in all contexts to be included as 'transgender'	Full social transition: Use of the pronoun 'opposite' their sex in all contexts	Two control groups of non-transgender children: 1.Age and gender identity matched controls 2.Siblings of transgender participants in the broader Trans Youth Project	None	Depression and anxiety	Depression and anxiety symptoms - children completed paediatric short form PROMIS, and parents completed parental proxy short form
Olson, 2016 (23) US and Canada	Cross-sectional with matched controls Community	N = 195 (n = 73 socially transitioned transgender children, age 3-12y, mean age 7.7y, SD 2.2, birth-registered males 70%; n = 73 cisgender controls, mean age 7.8y, SD 2.2, birth-registered males 30%; n = 49 cisgender siblings, mean age 8.3y, SD 2.5, birth-registered males 61%)	Children included as 'transgender' if they were reported by parents as identifying as the gender opposite their birth-registered sex in everyday life	Full social transition: Presenting in all contexts (at school and in public) as the gender consistent with their identity and use of the pronouns associated with gender identity rather than sex	Two control groups of non-transgender children: 1.Age and gender identity matched controls 2.Siblings of transgender participants	None	Anxiety and depression	National Institute of Health Patient Reported Outcomes Measurement Information System (PROMIS) parental proxy short forms for anxiety and depression

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
Olson, 2022 (32), US and Canada	Longitudinal Community	N = 317 socially transitioned, initially transgender youth Age at recruitment 3-12 (mean age 8.1y, SD 2.36), birth-registered males: 66%	Children included as 'transgender' if they were reported by parents as identifying as the gender opposite their birth-registered sex in everyday life	Full social transition: Presenting in all contexts (at school and in public) as the gender consistent with their identity and use of the pronouns associated with gender identity rather than sex	Comparisons made between those socially transitioning before or after age 6 and between males and females.	Average of 5.37 years (SD = 1.74 years) after their initial social transition (average of 3.8 years in the study)	Gender identity based on use of pronouns and classified as binary transgender, non-binary, or cisgender	Notes review of last recorded interaction with research team to ascertain which pronouns used
Russell, 2018 (27), US	Cross-sectional Community	N = 129 youth aged 15-21 (mean age 18.70, SD 1.74) self-identified as transgender or gender queer (n = 74 with a chosen name, mean age 19.05, SD 1.66, birth-registered males: 45%; n = 55 without a chosen name, mean age 18.22, SD 1.75, birth-registered males: 45%)	No description of how gender identity was established. Participants were categorised into male birth sex to female gender identity (MTF), female birth sex to male gender identity (FTM), male birth sex to a different gender (MTDG), female birth sex to a different gender identity (FTDG)	Part of social transition: chosen name use in different contexts (home, school, work)	Comparison between those able to use their chosen name in different contexts and those not able to	None	Depressive symptoms Suicidal ideation and behaviour	Beck Depression Inventory for Youth scale Self-harm Behaviour Questionnaire

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
Sievert, 2021 (28), Germany	Cross-sectional Gender clinic	N = 54 children diagnosed with Gender Dysphoria Age 11 and under (mean age 9.05 years, SD 2.08). Birth-registered males: 54%	Participants included if they met the diagnostic criteria for Gender Dysphoria (DSM 5). This was established by clinicians during a comprehensive diagnostic and psychological evaluation	Social transition - classified as no social transition, partial, almost complete, and complete social transition, scale 1-4 based on whether the child was living in preferred gender role at home/with peers / at school	Comparison between children who had undergone different degrees of social transition	None	Internalising and Externalising problems.	Child Behaviour Checklist (CBCL).
Steensma, 2013 (29), The Netherlands	Retrospective cohort study Gender clinic	N = 127 adolescents who were referred and assessed in childhood (<12y) Age at follow up, range 15-19 years, age in childhood range 6-12 years. No overall mean age and SD reported. Birth-registered males: 62%	Participants were included if they were assessed for Gender Identity Disorder (DSM IV). Included both those meeting the full diagnostic criteria and those subthreshold for a diagnosis	Social transition: classified as no social transition, partial transition (clothing and hairstyle but not name and pronouns) or complete transition (clothing, hairstyle, name and pronouns). Established by 2 questions posed to parents around time of referral.	Those who had either partially or completely socially transitioned in childhood were compared to those who had not socially transitioned in childhood	Minimum follow up 3 years (from age 12 to 15 years). Mean follow up period not reported	'Persistence' or 'desistance' of Gender Dysphoria in adolescence.	Outcome established by reviewing clinical notes. Re-applying to the gender clinic in adolescence, being diagnosed with GID and being eligible for medical treatment counted as persistence. Those not returning to the gender clinic in adolescence were counted as desisters.

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
Turban, 2022 (30), US	Cross-sectional retrospective Community	N = 9711 socially transitioned trans and gender diverse adults aged 18+. Mean age 34.8 (SD 13.9). Birth-registered male 45.8% (Sub groups: childhood social transition n = 165, adolescent social transition n = 1196, adult social transition n = 8350)	The US Trans Survey 2015 included participants with a diverse range of gender identities, included in this study if they reported having a different gender identity to birth sex during childhood. Categorised as: woman, man, transwoman, transman, Nonbinary/Genderqueer	Social transition: self-reported by answering yes to the question ‘do you currently live full time in a gender that is different to the one assigned to you at birth?’	Three groups compared based on age of social transition in 1. Childhood (age 3-9 years), 2. Adolescence (10-17 years) or 3. Adulthood (age 18 years and older)	None	Past month severe psychological distress; Lifetime illicit drug use; Lifetime marijuana use; Past-month binge drinking; Suicidality (6 sub-measures)	Kessler-6 psychological distress scale Other outcomes measured by survey questions (non-validated)
van der Vaart, 2022 (33), The Netherlands	Cross-sectional Gender clinic	N = 312 children aged 7-13y, mean age 9.4 years (SD 1.2). Birth-registered male 47.1% (Sub-groups; socially transitioned children n=194; and not socially transitioned n=118)	Children referred to the Gender clinic for assessment of Gender Dysphoria. Not reported if diagnostic criteria were met.	Social transition: defined as using preferred name and pronouns and, or, wearing clothing and hairstyle incongruent to birth assigned sex	Socially transitioned and non-socially transitioned children.	None	Aspects of self-perception: scholastic, social, athletic competence, physical appearance, behavioural conduct, global self-worth	Dutch version of the self-perception profile for children (SPPC)

Author, year, country	Study design and setting	Population	Criteria for inclusion	Intervention	Comparison group/s	Follow up period	Outcomes	Method of outcome measurement
Wong, 2019 (31), US and Canada	Re-analysis of data from 3 cross-sectional studies using statistical bootstrapping to match samples Community	N = 266 gender variant children aged 3-12 years (n = 162 cisgender gender-variant children, mean age 8.8 years, SD 2.01, birth-registered males 36%; n = 31, socially transitioned cross-gender identified children, mean age 8.7 years, SD 1.9, birth-registered males 55%; n = 73 socially transitioned transgender children, mean age 7.7 years, SD 2.2, birth-registered males 70%)	Cisgender gender variant (CGV) children included if they had levels of gender variance similar to clinic-referred children on Gender Identity Questionnaire for Children but gender identity and birth-registered sex were aligned. Children included as transgender or cross-gender identified, if they identified as the opposite gender to their birth-registered sex.	Social transition not defined by Wong. Original studies defined social transition as switching pronouns; presenting in all contexts and changing pronouns	Non-socially transitioned, cisgender gender-variant children compared to socially transitioned transgender and cross-gender identified children	None	Emotional (internalising) and behavioural (externalising) problems	Child Behaviour Checklist (CBCL) Patient reported outcome measurement information system (PROMIS)

Supplemental Table 2: Summary of findings. Please note terminology is reported as per authors of original papers.

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
Socially transitioned children compared to non-transgender children										
Anxiety	Olson 2016	Non-transgender age and gender-identify matched controls; siblings	Parent - PROMIS (Patient-Reported Outcomes Measurement Information System).	Mean scores	146 (73)	Favours comparison	54.2	Matched controls: 50.9; Siblings 52.3	0.057 (ANOVA, three groups)	National average, favours comparison, p <0.001
	Durwood 2017				164 (63)	Favours comparison*	54.9 (9)	Matched: 49.6 (8.6); Siblings: 51.0 (8.2)	0.002 (ANOVA, three groups)	Matched controls, favours comparison, p = 0.002; National average, favours comparison, p<0.001
	Gibson 2021				287 (148)	Favours comparison*	52.62 (9.41)	Matched: 49.94 (8.84); Siblings: 50.23 (9.32)	0.03 (ANOVA, three way)	
	Durwood 2017		Self - PROMIS (Patient-Reported Outcomes Measurement Information System).		164 (63)	Favours comparison	52 (9.6)	Matched: 49.0 (7.7); Siblings: 52.8 (10.5)	0.076 (ANOVA, three groups)	Matched controls, favours comparison, p = 0.16; national average, favours comparison, p=0.29

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons	
	Gibson 2021				287 (148)	Favours comparison	52.21 (8.92)	Matched: 50.53 (8.25); Siblings: 52.41 (8.82)	0.17 (ANOVA, three way)		
Depression	Olson 2016	Non-transgender age and gender-identify matched controls; siblings	Parent - PROMIS (Patient-Reported Outcomes Measurement Information System).	Mean scores	146 (73)	Favours comparison	50.1	Matched controls: 48.4; Siblings 49.3	0.32 (ANOVA, three groups)	National average, favours comparison, p = 0.883	
	Durwood 2017				164 (63)	Favours comparison	50.2 (8.8)	Matched: 49.4 (7.8); 48.9 (7.1)	0.728 (ANOVA, three groups)	National average, favours comparison, p=0.14)	
	Gibson 2021				287 (148)	Favours comparison	51.41 (8.06)	Matched: 49.86 (7.65); Siblings: 51.1 (8.52)	0.24 (ANOVA, three way)		
	Durwood 2017				Self - PROMIS (Patient-Reported Outcomes Measurement Information System).	164 (63)	Favours comparison	48.7 (9.4)	Matched: 46.4 (8.0); Siblings: 47.9 (7.9)	0.311 (ANOVA, three groups)	National average, favours social transition, p=0.96)
	Gibson 2021				287 (148)	Favours social transition	46.38 (9.13)	Matched: 46.46 (8.99); Siblings: 48.01 (9.05)	0.36 (ANOVA, three way)		
Self-worth	Durwood 2017	Cisgender age and gender-identify matched controls; siblings	Self - Global Self-Worth Subscale from Harter Self-Perception Profile for Children	Mean scores	309 (116)	Favours comparison	3.46 (0.54)	Matched: 3.61 (0.42); Siblings: 3.62 (0.44)	0.142 (ANOVA, three way)		

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
Behavioural problems	Wong 2019	Non-transgender children (bootstrap matched sample)	Self - CBCL (Child Behaviour Check List) Total Problem score	Mean scores	193 (31)	Favours social transition	27.97 (19.59)	33.49 (4.36)	0.127 (T-test)	
			Self - CBCL (Child Behaviour Check List) Internalizing score	Mean scores	193 (31)	Favours social transition	53.23 (9.92)	54.57 (1.92)	0.458 (T-test)	
			Self -CBCL (Child Behaviour Check List) Externalizing score	Mean scores	193 (31)	Favours social transition	51.16 (10.29)	52.4 (1.97)	0.508 (T-test)	
			Self - CBCL (Child Behaviour Check List) Peer relations score	Mean scores	193 (31)	Favours social transition	0.74 (1.21)	0.84 (0.22)	0.649 (T-test)	
Socially transitioned children compared to non-socially transitioned transgender children										
Behavioural problems	Sievert 2021	Extent of social transition compared	Self - CBCL (Child Behaviour Check List) Total Problem score	Linear regression coefficient	54 (not disclosed, four level scoring))	Favours comparison	2.64 (linear regression coefficient with ST score)	0 (ref)	0.097 (linear regression)	
Scholastic competence	Van der Vaart 2022	Non-socially transitioned transgender children	Self - Dutch version of Self-Perception profile for Children (SPPC)	Mean	312 (194)	Favours social transition	50.9 (33.8)	47.7 (29.1)	0.061 (ANCOVA)	
Social competence	Van der Vaart 2022	Non-socially transitioned transgender children	Self - Dutch version of Self-Perception	Mean	312 (194)	Favours social transition	58.3 (31.2)	50.1 (31.8)	0.720 (ANCOVA)	

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
			profile for Children (SPPC)							
Athletic competence	Van der Vaart 2022	Non-socially transitioned transgender children	Self - Dutch version of Self-Perception profile for Children (SPPC)	Mean	312 (194)	Favours social transition	61.3 (30.6)	47.8 (31.5)	0.791 (ANCOVA)	
Physical appearance	Van der Vaart 2022	Non-socially transitioned transgender children	Self - Dutch version of Self-Perception profile for Children (SPPC)	Mean	312 (194)	Favours comparison	29.7 (26.4)	32.2 (30.5)	0.621 (ANCOVA)	
Behavioural conduct	Van der Vaart 2022	Non-socially transitioned transgender children	Self - Dutch version of Self-Perception profile for Children (SPPC)	Mean	312 (194)	Favours comparison	42.9 (31.5)	53.4 (31.6)	0.069 (ANCOVA)	
Global self-worth	Van der Vaart 2022	Non-socially transitioned transgender children	Self - Dutch version of Self-Perception profile for Children (SPPC)	Mean	312 (194)	Favours comparison	27.9 (30.8)	33.4 (31.7)	0.322 (ANCOVA)	
Lifetime suicidal ideation	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	8515 (165)	Favours social transition	0.8 (0.4-2.0)	1 (ref)	0.80 (logistic regression)	
Past-year suicidal ideation	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	8515 (165)	None	1.0 (0.6-1.8)	1 (ref)	0.89 (logistic regression)	

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
Past-year suicidal ideation with plan	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	8515 (165)	Favours comparison	1.3 (0.7-2.6)	1 (ref)	0.45 (logistic regression)	
Lifetime suicide attempt	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	8515 (165)	Favours comparison	1.5 (0.9-2.6)	1 (ref)	0.12 (logistic regression)	
Past-year attempt	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	8515 (165)	Favours comparison	1.3 (0.5-3.1)	1 (ref)	0.63 (logistic regression)	
Past-year suicide attempt resulting in medical attention	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	8515 (165)	Favours comparison	1.8 (0.5-6.7)	1 (ref)	0.36 (logistic regression)	
Severe psychological distress	Turban 2022	People who socially transitioned as adults	Self - Kesler 6 (score >= 13)	Odds ratio	8515 (165)	Favours social transition	0.8 (0.4-1.4)	1 (ref)	0.43 (logistic regression)	
Persistence of gender dysphoria	Steensma 2013	Non-socially transitioned transgender children	Records - Return to clinic	Odds ratio	127 (37)	Social transition increases persistence*	5.06 (1.61-15.87)	1 (ref)	<0.01 (logistic regression)	
Socially transitioned adolescents compared to non-socially transitioned transgender adolescents										
Anxiety	Fontanari 2020	Non-socially transitioned transgender adolescents	Self - OASIS (Overall Anxiety Severity and	Mean	115 (87)	Favours social transition*	Full ST: 9.23 (8.17-10.30); Partial ST:	12.00 (10.13-13.89)	0.036 (ANCOVA)	

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
			Impairment Scale)				10.38 (9.12-11.63)			
Depression	Fontanari 2020	Non-socially transitioned transgender adolescents	Self - MDS (Modified Depression Scale)	Mean	120 (88)	Favours social transition*	Full ST: 16.74 (15.88-17.59)	19.38 (17.96-20.81)	0.007 (ANCOVA)	
	Russell 2018		Self - Beck Depression Inventory for Youth	Linear regression coefficient	129 (74)	Favours social transition*	-5.37 (-8.20 - -2.55)	0	0.045 (calculated from linear regression 95% CI)	
Gender distress	Fontanari 2020	Non-socially transitioned transgender adolescents	Self - GDS (Gender Distress Scale)	Mean	182 (132)	Favours social transition	Full ST: 4.10 (3.99-4.21); Partial ST: 3.94 (3.81-4.06)	4.16 (3.98-4.34)	0.066 (ANCOVA)	
Gender positivity	Fontanari 2020	Non-socially transitioned transgender adolescents	Self - GPS (Gender Positivity Scale)	Mean	184 (135)	Favours social transition	Full ST: 3.36 (3.32-3.49); Partial ST: 3.38 (3.24-3.52)	3.19 (2.97-3.41)	0.346 (ANCOVA)	
Lifetime suicidal ideation	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	9546 (1196)	None	1 (0.7-1.3)	1 (ref)	0.90 (logistic regression)	
Past-year suicidal ideation	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	9546 (1196)	Favours comparison*	1.2 (1.0-1.5)	1 (ref)	0.04 (logistic regression)	
Past-year suicidal ideation with plan	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	9546 (1196)	Favours comparison	1.2 (0.9-1.5)	1 (ref)	0.22 (logistic regression)	

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
Lifetime suicide attempt	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	9546 (1196)	Favours comparison*	1.3 (1.1-1.7)	1 (ref)	0.004 (logistic regression)	
Past-year suicide attempt	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	9546 (1196)	Favours comparison	1.2 (0.9-1.7)	1 (ref)	0.28 (logistic regression)	
Past-year suicide attempt resulting in medical attention	Turban 2022	People who socially transitioned as adults	Self - Survey question	Odds ratio	9546 (1196)	Favours comparison	1.1 (0.8-1.3)	1 (ref)	0.82 (logistic regression)	
Severe psychological distress	Turban 2022	People who socially transitioned as adults	Self - Kesler 6 (score >= 13)	Odds ratio	9546 (1196)	Favours comparison	1.1 (0.8-1.3)	1 (ref)	0.60 (logistic regression)	
Suicidal ideation	Russell 2018	Non-socially transitioned transgender adolescents	Self - Self-Harm Behaviour Questionnaire	Incidence rate ratio	129 (74)	Favours social transition*	0.71 (0.52-0.95)	1 (ref)	0.026 (calculated from Poisson regression 95% CI)	
Suicidal behaviour	Russell 2018	Non-socially transitioned transgender adolescents	Self - Self-Harm Behaviour Questionnaire	Incidence rate ratio	129 (74)	Favours social transition*	0.44 (0.25-0.78)	1 (ref)	0.005 (calculated from Poisson regression 95% CI)	
Observational follow-up of socially transitioned children										
Persistence of transgender	Olson 2022	N/A (longitudinal	Self - maintaining pronouns	%	317 (317)	N/A	Persistence: 94%;	N/A	N/A	Retransition more likely

Outcome	Paper	Comparison group(s)	Reported measure	Reported value	Total sample (socially transitioned sample)	Direction of reported effect (* =significant at p < 0.05)	Reported value for socially transitioned (SD or 95%CI)	Reported value for comparison(s) (SD or 95%CI)	P-value (method used)	Additional relevant reported comparisons
identity after social transition		follow-up of socially transitioned group)	associated with transgender identity				Retransition to cisgender: 2.5%; Retransition to non-binary: 3.5%			when social transition before age 6 (p=0.02)

Supplementary file 1: Final search strategy for Ovid MEDLINE

1 exp Child/ or Child Behavior/ or Child Health/ or Child Welfare/ or Psychology, Child/ or Child Psychiatry/ or Child Health Services/ or Child Development/ (1984459)

2 Minors/ (2638)

3 (child\$ or minor or minors or boy or boys or boyhood\$ or girl or girls or girlhood\$ or kid or kids or youngster\$ or emerging adult\$).ti,ab,kf,jn. (1862660)

4 (young\$ adj (people\$ or person\$1 or adult\$ or man\$1 or men\$1 or woman\$ or women\$ or male\$1 or female\$1)).ti,ab,kf,jn. (224878)

5 pediatrics/ (55388)

6 (pediatric\$ or paediatric\$ or peadiatric\$).ti,ab,kf,jn. (543516)

7 Adolescent/ or Adolescent Behavior/ or Adolescent Health/ or Psychology, Adolescent/ or Adolescent Psychiatry/ or Adolescent Health Services/ or Adolescent Medicine/ or Adolescent Development/ (2088552)

8 Puberty/ (13562)

9 (adolescen\$ or pubescen\$ or prepubescen\$ or postpubescen\$ or pubert\$ or prepubert\$ or postpubert\$ or teen or teens or teenag\$ or tween\$ or preteen\$ or preadolescen\$ or juvenil\$ or youth\$ or underage\$ or under-age\$).ti,ab,kf,jn. (522801)

10 Schools/ or Schools, Nursery/ (42221)

11 exp Child Day Care Centers/ or Child Care/ (11287)

12 (school\$ or highschool\$ or preschool\$ or kindergar\$ or nursery or nurseries or pupil\$1).ti,ab,kf,jn. (356157)

13 or/1-12 (4333601)

14 Gender Dysphoria/ (581)

15 "Sexual and Gender Disorders"/ (79)

16 Transsexualism/ (3895)

17 Transgender Persons/ (3835)

18 Health Services for Transgender Persons/ (152)

19 exp Sex Reassignment Procedures/ (969)

20 "Sexual and Gender Minorities"/ (4924)

21 ((gender\$ and dysphori\$) or (gender\$ adj5 incongru\$) or sexual dysphori\$).ti,ab,kf. (1784)

22 (gender\$ adj (disorder\$ or identi\$)).ti,ab,kf. or (gender identity/ and dysphori\$.ti,ab,kf.) (4568)

23 (GID or GIDS or GIDC or GIDCS).ti,ab,kf. (456)

24 (gender\$ adj5 (confusion or confused or questioning or distress\$ or discomfort)).ti,ab,kf. (980)

25 (gender\$ adj5 (minority or minorities)).ti,ab,kf. (1593)

26 (gender\$ adj5 (variant\$ or variance\$ or nonconform\$ or non-conform\$ or diverse or diversity or atypical\$)).ti,ab,kf. (3409)

27 (non-binary or nonbinary or enby or genderqueer or gender-queer or neutrois).ti,ab,kf. (796)

28 (agender\$ or genderless\$ or gender-less\$ or genderfree or gender-free or ungender\$ or ungender\$ or non-gender\$ or nongender\$ or bigender\$ or bi-gender\$ or dual gender\$ or dualgender\$ or demi-gender\$ or demigender\$ or genderfluid\$ or gender-fluid\$ or trigender\$ or tri-gender\$).ti,ab,kf. (315)

29 two spirit\$.ti,ab,kf. (84)

30 (trans adj3 (female\$ or feminin\$ or woman\$ or women\$ or male\$1 or man or mans or men or mens or masculin\$ or person\$1 or peopl\$ or population\$ or individual\$)).ti,ab,kf. (1362)

31 (transgend\$ or trans-gend\$ or transex\$ or transsex\$ or trans-sex\$ or transfemale\$ or transfeminin\$ or transwom\$ or transmale\$ or transman\$ or transmasculin\$ or transmen\$ or transperson\$ or transpeopl\$ or transpopulation\$ or transindividual\$).ti,ab,kf. (10832)

- 32 (trans adj3 identi\$.ti,ab,kf. or (gender identity/ and trans.ti,ab,kf.) or (trans and dysphori\$.ti,ab,kf. (1447)
- 33 (crossgender\$ or cross-gender\$ or crossex\$ or crosssex\$ or cross-sex\$.ti,ab,kf. (836)
- 34 ((sex or gender\$) adj3 (reassign\$ or re-assign\$ or affirm\$ or confirm\$ or transition\$)).ti,ab,kf. (3963)
- 35 ((gender\$ or sex) adj (change or changes or changing or changed)).ti,ab,kf. (825)
- 36 (detransition\$ or de-transition\$ or desister\$ or de-sister\$.ti,ab,kf. (134)
- 37 ((desist\$ or persist\$) adj5 (transition\$ or trans or dysphori\$)).ti,ab,kf. (823)
- 38 or/14-37 (28731)
- 39 (trans and (child\$ or minor or minors or boy or boys or boyhood\$ or girl or girls or girlhood\$ or kid or kids or youngster\$ or young\$ people\$ or young\$ person\$ or young\$ adult\$ or young\$ man\$1 or young\$ men\$1 or young\$ woman\$ or young\$ women\$ or young\$ male\$1 or young\$ female\$ or adolescen\$ or pubescen\$ or prepubescen\$ or postpubescen\$ or pubert\$ or prepubert\$ or postpubert\$ or teen or teens or teenag\$ or tween\$ or preteen\$ or preadolescenc\$ or juvenil\$ or youth\$ or emerging adult\$ or underage\$ or under-age\$ or school\$ or highschool\$ or preschool\$ or kindergar\$ or nursery or nurseries or pupil\$1 or pediatric\$ or paediatric\$ or peadiatric\$)).ti. (339)
- 40 (trans adj5 (child\$ or minor or minors or boy or boys or boyhood\$ or girl or girls or girlhood\$ or kid or kids or youngster\$ or young\$ people\$ or young\$ person\$ or young\$ adult\$ or young\$ man\$1 or young\$ men\$1 or young\$ woman\$ or young\$ women\$ or young\$ male\$1 or young\$ female\$ or adolescen\$ or pubescen\$ or prepubescen\$ or postpubescen\$ or pubert\$ or prepubert\$ or postpubert\$ or teen or teens or teenag\$ or tween\$ or preteen\$ or preadolescenc\$ or juvenil\$ or youth\$ or emerging adult\$ or underage\$ or under-age\$ or school\$ or highschool\$ or preschool\$ or kindergar\$ or nursery or nurseries or pupil\$1 or pediatric\$ or paediatric\$ or peadiatric\$)).ab,kf. (397)
- 41 (transchild\$ or transminor\$ or transboy\$ or transgirl\$ or transkid or transkids or transyoung\$ or transyouth\$ or transteen\$ or transtween\$ or transadoles\$ or transjuvenil\$).ti,ab,kf. (15)
- 42 13 and 38 (9819)
- 43 39 or 40 or 41 or 42 (10343)
- 44 exp animals/ not humans/ (4823832)
- 45 (editorial or news or comment or case reports).pt. or case report.ti. (3692318)
- 46 43 not (44 or 45) (9429)
- 47 limit 46 to english language (9029)

Key to Ovid symbols and commands:

- \$ Unlimited right-hand truncation symbol
- \$N Limited right-hand truncation - restricts the number of characters following the word to N
- ti,ab,kf, Searches are restricted to the Title (ti), Abstract (ab), Keyword Heading Word (kf) fields
- .jn Searches are restricted to the Journal name field
- adj Retrieves records that contain terms next to each other (in the shown order)
- adjN Retrieves records that contain terms (in any order) within a specified number (N) of words of each other
- / Searches are restricted to the Subject Heading field
- exp The subject heading is exploded
- pt. Search is restricted to the publication type field
- or/1-12 Combines sets 1 to 12 using OR

**THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO**

DARREN PATTERSON CHRISTIAN
ACADEMY,

Plaintiff,

v.

LISA ROY, et al.,

Defendants.

Case No. 1:23-cv-1557-DDD-STV

EXPERT REPORT OF STEPHEN B. LEVINE, M.D.

TABLE OF CONTENTS

I.	CREDENTIALS	1
II.	SUMMARY.....	5
III.	BACKGROUND ON THE FIELD.....	9
A.	The biological baseline of the binary sexes.	9
B.	Definition and diagnosis of gender dysphoria.....	13
C.	Impact of gender dysphoria on minority and vulnerable groups.	15
D.	Three competing conceptual models of gender dysphoria and transgender identity.....	15
E.	Four competing models of therapy.	18
1.	The two “watchful waiting” therapy models.	18
2.	The psychotherapy model: Alleviate distress by identifying and addressing causes (model #3).....	19
3.	The affirmation therapy model (model #4).....	22
IV.	THERE IS NO CONSENSUS OR AGREED “STANDARD OF CARE” CONCERNING THERAPEUTIC APPROACHES TO CHILD OR ADOLESCENT GENDER DYSPHORIA.....	25
A.	Experts and organizations disagree as to whether “distress” is a necessary element for diagnoses that justify treatment for gender identity issues.....	25
B.	Opinions and practices vary widely about the utilization of social transition for children and adolescents.	27
C.	The WPATH “Standards of Care” is not an impartial or evidence-based document.	28
D.	Opinions and practices differ widely with respect to the proper role of psychological counseling before, as part of, or after a diagnosis of gender dysphoria	32
E.	Opinions and practices vary widely with respect to the administration of puberty blockers and cross-sex hormones.	34

F.	European health authorities recognize that medical transition is unproven, experimental and dangerously uncertain.....	38
V.	TRANSGENDER IDENTITY IS NOT BIOLOGICALLY BASED.	44
A.	No theory of biological basis has been scientifically validated.....	45
B.	Large changes across time and geography in the epidemiology of transgender identification are inconsistent with the hypothesis of a biological basis for transgender identity.	46
C.	Disorders of sexual development (or DSDs) and gender identity are very different phenomena, and it is an error to conflate the two.....	49
D.	Studies of individuals born with DSDs suggest that there may be a biological predisposition towards <i>typical</i> gender identifications, but they provide no support for a biological basis for <i>transgender</i> identification.....	50
VI.	GENDER IDENTITY IS EMPIRICALLY NOT FIXED FOR MANY INDIVIDUALS.	51
A.	Most children who experience gender dysphoria ultimately “desist” and resolve to cisgender identification.	51
B.	Desistance is increasingly observed among teens and young adults who first manifest GD during or after adolescence.	53
VII.	TRANSITION AND AFFIRMATION ARE IMPORTANT PSYCHOLOGICAL AND MEDICAL INTERVENTIONS THAT CHANGE GENDER IDENTITY OUTCOMES.	56
A.	If both a typical gender or a transgender long-term gender identity outcome are possible for a particular patient, the alternatives are not medically neutral.	56
B.	Social transition of young children is a powerful psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance.	57
C.	Administration of puberty blockers is a powerful medical and psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance on the historically observed timeline.....	60

VIII. TRANSITION AND AFFIRMATION ARE EXPERIMENTAL THERAPIES THAT HAVE NOT BEEN SHOWN TO IMPROVE MENTAL OR PHYSICAL HEALTH OUTCOMES BY YOUNG ADULTHOOD.....	61
A. The knowledge base concerning therapies for gender dysphoria is “very low quality.”	62
B. Youth who adopt a transgender identity show no durable improvement in mental health after social, hormonal, or surgical transition and affirmation.	65
C. Long-term mental health outcomes for individuals who persist in a transgender identity are poor.	69
IX. TRANSITION AND AFFIRMATION DO NOT DECREASE, AND MAY INCREASE, THE RISK OF SUICIDE.	71
A. The risk of death by suicide among transgender youth is confused and exaggerated in the public mind.	71
B. Transition of any sort has not been shown to reduce levels of suicide.	73
X. HORMONAL INTERVENTIONS ARE EXPERIMENTAL PROCEDURES THAT HAVE NOT BEEN PROVEN SAFE.	77
A. Use of puberty blockers has not been shown to be safe or reversible for gender dysphoria.	78
B. Use of cross-sex hormones in adolescents for gender dysphoria has not been shown to be medically safe except in the short term.	83
C. The timing of harms.	87
XI. OBSERVATIONS ON THE REPORTS OF DOCTORS ABBIE GOLDBERG AND AMY TISHELMAN.....	89
A. Dr. Abbie E. Goldberg, Ph.D.....	89
B. Dr. Amy Tishelman, Ph.D.....	90
BIBLIOGRAPHY.....	93
EXHIBIT A	A

I. CREDENTIALS

1. I am Clinical Professor of Psychiatry at Case Western Reserve University School of Medicine and maintain an active private clinical practice. I received my M.D. from Case Western Reserve University in 1967 and completed a psychiatric residency at the University Hospitals of Cleveland in 1973. I became an Assistant Professor of Psychiatry at Case Western in 1973, became a Full Professor in 1985, and in 2021 was honored to be inducted into the Department of Psychiatry's "Hall of Fame."

2. Since July 1973, my specialties have included psychological problems and conditions relating to individuals' sexuality and sexual relations, therapies for sexual problems, and the relationship between love, intimate relationships, and wider mental health. In 2005, I received the Masters' and Johnson Lifetime Achievement Award from the Society of Sex Therapy and Research. I am a Distinguished Life Fellow of the American Psychiatric Association.

3. I have served as a manuscript and book reviewer for numerous professional publications. I have been the Senior Editor of the first (2003), second (2010), and third (2016) editions of the *Handbook of Clinical Sexuality for Mental Health Professionals*. I have solo-authored six books for professionals, the most recent of which is *Psychotherapeutic Approaches to Sexual Problems* (2020) which, like the previous books, contains a chapter on sexual identity variations.

4. I have authored or co-authored over 180 journal articles and book chapters, 39 of which deal with the issue of gender dysphoria. I was an invited member of a Cochrane Collaboration subcommittee that sought to publish a review of the scientific literature on the effectiveness of puberty blocking hormones and of cross-sex hormones for gender dysphoria for adolescents. Cochrane Reviews are a well-respected cornerstone of evidence-based practice, comprising a systematic

review that aims to identify, appraise, and synthesize all the empirical evidence that meets pre-specified eligibility criteria in response to a particular research question.

5. My four publications on Gender Dysphoria since March 2022 have attracted significant international attention, having been downloaded over 260,635 times in Europe, Asia, Australia, New Zealand, and the U.S. as of May 25, 2024. The titles are: 1. Reconsideration of Informed Consent for Trans-identified Children, Adolescents, and Young Adults (Levine, Abbruzzese & Mason 2022).; 2. What Are We Doing to These Children? Response to Drescher, Clayton, and Balon Commentaries on Levine et al., 2022 (Levine, Abbruzzese & Mason 2022); 3. The Myth of “Reliable Research” in Pediatric Gender Medicine: A critical evaluation of the Dutch Studies—and research that has followed (Abbruzzese, Levine & Mason 2023); 4. Current Concerns About Gender-Affirming Therapy in Adolescents (Levine & Abbruzzese 2023). A fifth paper, What is the Purpose of the Initial Psychiatric Evaluation of Minors with Gender Dysphoria?, is in press.

6. I first encountered a patient suffering what we would now call gender dysphoria in July 1973. In 1974, I founded the Case Western Reserve University Gender Identity Clinic and have served as Co-Director of that clinic since that time. Across the years, our Clinic treated hundreds of patients who were experiencing a transgender identity. An occasional grade school-aged child or younger were seen during this era. I was the primary psychiatric caregiver for several dozen of our patients and supervisor of the work of other therapists. I supervise psychotherapists from out of town on their treatment of adolescents with gender dysphoria. I was an early member of the Harry Benjamin International Gender Dysphoria Association (later known as WPATH) and served as the chairman of the committee that developed the 5th version of its Standards of Care. In 1993 the CWRU Gender Identity Clinic was renamed, moved to a new location, and became independent of Case Western Reserve University. I continue to serve as Co-Director of our Gender Diversity Clinic,

which has monthly meetings with members of our local staff and others from Canada and North America.

7. In the course of my five decades of practice treating patients who suffered from gender dysphoria, I have at one time or another supported requested social transition, cross-sex hormones, and surgery for particular patients, but only after extensive diagnostic and psychotherapeutic work.

8. In 2006, Judge Mark Wolf of the Eastern District of Massachusetts asked me to serve as an independent, court-appointed expert in a litigation involving the treatment of a transgender inmate within the Massachusetts prison system. In that litigation, the U.S. Court of Appeals for the First Circuit in a 2014 (en banc) opinion cited and relied on my expert testimony. I have been retained by the Massachusetts Department of Corrections as a consultant on the treatment of transgender inmates since 2007. This supervisory, consultative, and direct educational work continues to this day.

9. In 2019, I was qualified as an expert and testified concerning the diagnosis, understanding, developmental paths and outcomes, and therapeutic treatment of transgenderism and gender dysphoria, particularly as it relates to children, in the matter of *In the Interest of J.A.D.Y. and J.U.D.Y.*, No. DF-15-09887-S, 255th Judicial District, Dallas County, TX (the “*Younger* litigation”).

10. In 2019, I provided written expert testimony in the landmark case in the United Kingdom in the case of *Bell v. The Tavistock and Portman NHS Foundation Trust*. I have provided expert testimony in other litigation as listed in my curriculum vitae, which is attached as Exhibit A.

11. I am often requested to speak on the topic of gender dysphoria and have given countless presentations to academic conferences and Departments of Psychiatry around the country. In May 2022, I organized and co-presented a symposium on the management of adolescent-onset transgender identity at American

Psychiatric Association's Annual Meeting. In June 2023, I spoke in Finland at a conference on psychotherapy for adolescents with a trans identity. In September and October 2023, I spoke at international conferences on the same topic in Denver and New York. A fuller review of my professional experience, publications, and awards is provided in Exhibit A.

12. This report responds to certain opinions contained in the Expert Reports of Doctors Abbie Goldberg and Amy Tishelman, submitted on behalf of the Defendants in this case, which explicitly and implicitly advocate for the active affirmation of a minor's current transgender identity, which has been called an "affirmative" response. As I will detail in this report, an affirmative response is not the sole appropriate response to child or who may or may not meet all the diagnostic criteria for gender dysphoria. Indeed, an "affirmative" approach has been demonstrated to start a minor on a path that leads in the large majority of cases to the administration of puberty blockers, which in turn almost inevitably leads to the administration of cross-sex hormones—all of which carry known social, psychological, and medical risks for the affected minor that cannot be ignored. I employ an analogy that is important for parents, educators, and government officials to understand—this sequence can be visualized as a "conveyor belt."

13. The bases for my opinions expressed in this report are my professional experience as a psychiatrist, my knowledge of the pertinent scientific literature, and my review of the various pleadings and documents filed in this case, including the Verified Complaint and the Expert Reports of Doctors Abbie Goldberg and Amy Tishelman.

14. I am being compensated for my time spent in preparation of this report at a rate of \$400.00 per hour and for time spent during and in preparation for trial and/or deposition testimony at a rate of \$500.00 per hour. My compensation is not dependent upon the outcome of this litigation or the substance of my opinions.

II. SUMMARY

15. As a preliminary matter, I note from the Verified Complaint that no minor will be refused enrollment at the universal preschool program at Darren Patterson Christian Academy due to the minor being trans-identified at the time, but that Darren Patterson Christian Academy would treat the minor according to his or her sex for purposes of restroom usage, pronouns, dress codes, and housing during school expeditions and field trips.¹ In other words, Darren Patterson Christian Academy does not implement the “affirmative” response advocated by Doctors Abbie Goldberg and Amy Tishelman.

16. Adopting an “affirmative” response to currently trans-identified minors is controversial because it assumes a minor’s identity is a fixed and stable biological entity that must be treated as though the minor has always been and will always be a trans person. However, the scientific literature has consistently shown that the vast majority of minors who want to be, or insist that they are, members of the opposite sex desist from this identity during childhood or adolescence. The observation of these high rates of natural desistance is not discussed in the reports of Doctors Abbie Goldberg and Amy Tishelman.

17. Moreover, the scientific literature also demonstrates that an “affirmative” response to a trans-identified minor—often called “social transition”—is a powerful psychotherapeutic intervention that almost eliminates the naturally observed desistance rates and predisposes the minor to desire and receive puberty blockers, cross-sex hormones, and surgical interventions. This is why I employ the analogy of a “conveyor belt” to conceptualize the path that leads, in the large majority of cases, from “social transition” to medical interventions. These further interventions all have profound social, psychological, and medical consequences for the minors and their families, which I discuss at length in this report, which cannot be ignored and

¹ Verified Complaint, ¶ 7, 11, 48, 61–63.

must all be considered when deciding to adopt an “affirmative” response. Discussion of the ensuing impact on minors and their families from an “affirmative” response is notably absent from the reports of Doctors Abbie Goldberg and Amy Tishelman.

18. A summary of the key points that I explain in this report that are implicit in determining the response to a trans-identified minor is as follows:

- a. Sex as defined by biology and reproductive function is clear, binary, and cannot be changed. While hormonal and surgical procedures may enable some individuals to “pass” as the opposite gender during some or all of their lives, such procedures carry with them physical, psychological, and social risks, and no procedures can enable an individual to perform the reproductive role of the opposite sex. (Section III.A.)
- b. The diagnosis of “gender dysphoria” encompasses a diverse array of conditions, with widely differing pathways and characteristics depending on age of onset, biological sex, mental health, intelligence, motivations for gender transition, family circumstances, socioeconomic status, country of origin, etc. Data from one population (e.g., adults) cannot be assumed to be applicable to others (e.g., children). The term transgender, which is widely used by individuals with differing identities—nonbinary, gender fluid, queer, pangender, for instance, is not a synonym for the diagnosis of “gender dysphoria.” (Section III.B.)
- c. Among practitioners in the field, there are currently widely varying views concerning both the causes of and appropriate therapeutic response to gender dysphoria in children and adolescents. There are no generally accepted international or national “standards of care,” and existing studies do not provide a basis for a scientific conclusion as to which therapeutic response results in the best long-term outcomes for affected individuals. (Section IV.)

- d. Transgender identities are not biologically based; they are not simply determined prenatally. Rather, gender dysphoria is a psychiatric condition that cannot be identified by any biological test or measurement. (Sections V.A.)
- e. Disorders of sexual development (“DSDs”), referred to as Variations in Sex Traits (“VSTs”) by Dr. Amy Tishelman, are biologically based phenomena. It is a speculative error to conflate and/or scientifically link DSDs with incidents of gender dysphoria. (Sections V.C, V.D.)
- f. The large majority of children who are diagnosed with gender dysphoria “desist”—that is, their gender dysphoria does not persist—by puberty or adulthood. Desistance is also increasingly observed among teens and young adults who have experienced “rapid onset gender dysphoria”—first manifesting gender dysphoria during or shortly after adolescence. Such desistance is usually discussed as detransition or retransition. (Sections VI.A., VI.B.)
- g. “Social transition”—the active affirmation of a transgender identity through name changes at home and in school, hair and dress styles, and pronoun change—in children is a powerful intervention that solidifies the child’s incorrect sense that “sex” can be changed through gender presentation. While social transition is not itself a medical intervention, it strongly predisposes the child and family to desire and receive puberty blockers, cross-sex hormones and surgical interventions, each of which have social, psychological, and medical consequences. Thus, social transition leads to medicalization and far fewer children desisting by puberty. (Sections VII.A, VII.B.)
- h. Administration of puberty blockers is not a benign “pause” of puberty, but rather a powerful medical and psychotherapeutic intervention that

almost invariably leads to persistence in a transgender identity and, ultimately, to the administration of cross-sex hormones. (Section VII.C.)

- i. The knowledge base concerning the “affirmative” treatment of gender dysphoria available today has very low scientific quality with many relevant long-term implications remaining unknown. (Section VIII.A.)
- j. There are no studies that show that affirmation of transgender identity in minors permanently reduce suicide or suicidal or improves long-term outcomes, as compared to other therapeutic approaches. Meanwhile, multiple studies show that adult individuals living transgender lives suffer much higher rates of suicidal ideation, completed suicide, and negative physical and mental health conditions than does the general population. This is true before and after transition, hormones, and surgery. (Section VIII.B., VIII.C.)
- k. In light of what is known and not known about the impact of affirmation on the incidence of suicide, suicidal ideation, and other indicators of mental and physical health, it is scientifically baseless, and therefore unethical, to assert that a child or adolescent who expresses an interest in a transgender identity will kill him- or herself unless parents, educators, and peers affirm that child in a transgender identity. (Section IX.)
- l. Hormonal interventions to treat gender dysphoria are unproven, experimental, and dangerously uncertain in the long run. (Sections X, IV.F). Such treatments place an individual at risk of a wide range of long-term and even life-long harms including physical health risks; sterilization and its personal and interpersonal emotional responses; impaired sexual functional capacity; surgical complications and life-long after-care; alienation of family and romantic relationships; elevated

mental health risks of depression, anxiety, and substance abuse. The most overlooked and undiscussed harm, however, is shortened life expectancy. (Sections V.III, X.)

- m. The prevalence of the diagnosis of gender dysphoria in children and adolescents is higher among those in foster care, those who have been adopted, those with autism, a prior psychiatric diagnosis, and other earlier adversities such as neglect, or physical and sexual abuse. In the last decade, the prevalence of girls who claim to be transgendered has conspicuously increased. (Section III.C.)

III. BACKGROUND ON THE FIELD

A. The biological baseline of the binary sexes.

19. Biological sex is very well defined in all biological sciences including medicine. It is pervasively important in human development throughout the lifecycle.

20. Sex is not “assigned at birth” by humans visualizing the genitals of a newborn; it is not imprecise. Rather, it is clear, binary, and determined at conception. The sex of a human individual at its core structures the individual’s reproductive capabilities—to produce ova and bear children as a mother, or to produce semen and beget children as a father. As physicians know, sex determination occurs at the instant of conception, depending on whether a sperm’s X or Y chromosome fertilizes the egg. A publication of the federal government’s National Institute of Health accurately summarizes the scientific facts:

Sex is a biological classification, encoded in our DNA. Males have XY chromosomes, and females have XX chromosomes. Sex makes us male or female. Every cell in your body has a sex—making up tissues and organs, like your skin, brain, heart, and stomach. Each cell is either male or female depending on whether you are a man or a woman.” (NIH, How Sex and Gender Influence Health and Disease, 2022.)

21. The binary of biological sex is so fundamental and wide-ranging in its effects on human (and mammal) development and physiology that since 2014, the NIH has required all funded research on humans or vertebrate animals to include “sex as a biological variable” and give “adequate consideration of both sexes in experiments.” (NIH 2015.) In 2021, the Endocrine Society issued a position paper elaborating on the application of the NIH requirement. The Endocrine Society correctly stated that “Sex is a biological concept . . . all mammals have 2 distinct sexes;” that “biological sex is . . . a fundamental source of intraspecific variation in anatomy and physiology;” and that “In mammals, numerous sexual traits (gonads, genitalia, etc.) that typically differ in males and females are tightly linked to each other because one characteristic leads to sex differences in other traits.” (Bhargava et al. 2021 at 221, 229.)

22. The Endocrine Society emphasized that “The terms sex and gender should not be used interchangeably,” and noted that even in the case of those “rare” individuals who suffer from some defect such that they “possess a combination of male- and female-typical characteristics, those clusters of traits are sufficient to classify most individuals as either biologically male or female.” They concluded, “Sex is an essential part of vertebrate biology, but gender is a human phenomenon. Sex often influences gender, but gender cannot influence sex.” (Bhargava et al. 2021 at 220–221, 228.) This latter phrase requires repeated emphasis.

23. As these statements and the NIH requirement suggest, biological sex pervasively influences human anatomy, its development and physiology. This includes, of course, the development of the human brain, in which many sexually dimorphic characteristics have now been identified. In particular, the Endocrine Society and countless other researchers have determined that human brains undergo sex-specific developmental stages during puberty. This predictable developmental process is a genetically controlled coordinated endocrine response that begins with

pituitary influences leading to increases in circulating sex hormones. (Bhargava et al. 2021 at 225, 229; Blakemore et al. 2010 at 926–927, 929; NIH 2001.) This internal endocrine process begins well before puberty is manifested on the body and its function.

24. Humans have viewed themselves in terms of binary sexes since the earliest historical records. Recognizing a concept of “gender identity” as something distinct from sex is a rather recent innovation whose earliest manifestations likely began in the late 1940s. Its usage became common in medicine in the 1980s and subsequently in the larger culture. Definitions of gender have been evolving and remain individual-centric and subjective. In a statement on “Gender and Health,” the World Health Organization defines “gender” as “the characteristics of women, men, girls and boys that are socially constructed” and that “var[y] from society to society and can change over time,” and “gender identity” as referring to “a person’s deeply felt, internal and individual experience of gender.” (WHO Gender and Health.) As these definitions indicate, a person’s “felt” “experience of gender” is inextricably bound up with and affected by societal gender roles and stereotypes—or, more precisely, by the affected individual’s perception of societal gender roles and stereotypes and their personal idiosyncratic meanings. Typically, gendered persons also have subtly different, often idiosyncratic, reactions to societal gender roles and stereotypes without preoccupation with changing their anatomy. “Socially constructed” means that perceptions of others interact with internal conscious and unconscious developmental processes to generate a current and changeable sense of identity reflected in current self-concepts of gender identity and romantic/sexual attractions to other classes of individuals (i.e. male, female, or trans-identified persons).

25. Thus, the self-perceived gender of a child begins to develop along with the early stages of identity formation generally, influenced in part from how others

label the infant: “I love you, son (daughter).” This designation occurs thousands of times in the first two years of life when a child begins to show awareness of the two possibilities. As acceptance of the designated gender corresponding to the child’s sex is the outcome in >99% of children everywhere, anomalous gender identity formation begs for understanding. Is it biologically shaped? Is it biologically determined? Is it the product of how the child was privately regarded and treated? Is it a product of the quality of early life caregiver attachments? Does it stem from trauma-based rejection of maleness or femaleness, and if so, flowing from what trauma? Does it derive from a tense, chaotic interpersonal parental relationship without physical or sexual abuse? Is it a symptom of another, as of yet, unrevealed, emotional disturbance or neuropsychiatric condition (autism)? The answers to these relevant questions are not scientifically known but are not likely to be the same for every trans-identified child, adolescent, or adult.

26. Under the influence of hormones secreted by the testes or ovaries, numerous additional sex-specific differences between male and female bodies continuously develop postnatally, culminating in the dramatic maturation of the primary and secondary sex characteristics with puberty. These include differences in hormone levels, height, weight, bone mass, shape, musculature, internal organ size, body fat levels and distribution, and hair patterns, as well as physiological differences such as menstruation and ejaculation. These are genetically programmed biological consequences of sex—the manifestations of sex throughout the life cycle. Among the many consequences of sex is the evolution and consolidation of gender identity during childhood, adolescence, and various eras of adulthood.

27. Despite the increasing ability of hormones and various surgical procedures to reconfigure some male bodies to visually pass as female, or vice versa, the biology of the person remains as defined by his (XY) or her (XX) chromosomes, including cellular, anatomic, and physiologic characteristics and the disease

vulnerabilities associated with that chromosomally defined sex. For instance, the XX (genetically female) individual who takes testosterone to stimulate certain male secondary sex characteristics will nevertheless remain unable to produce sperm and father children. Contrary to assertions and hopes that medicine and society can fulfill the aspiration of the trans-identifying individual to become “a complete man” or “a complete woman,” this is not biologically attainable. (Levine 2016 at 238; Levine 2018a at 6.) It is possible for some adolescents and adults to pass unnoticed—that is, to be perceived by most individuals as a member of the gender that they aspire to be—but with limitations, costs, and risks, as I detail later.

B. Definition and diagnosis of gender dysphoria.

28. Specialists have used a variety of terms over time, with somewhat shifting definitions, to identify and speak about a distressing incongruence between an individual’s genetically determined sex and the gender with which they identify or to which they aspire. The American Psychiatric Association first used the term “gender identity disorder” in its Diagnostic and Statistical Manual of Mental Disorders in 1980 (DSM-3) to replace “transsexualism.” The term “gender dysphoria” was introduced in the 2013 version of the DSM (DSM-5). Today’s version of the DSM (DSM-5-TR) defines gender dysphoria with separate sets of criteria for adolescents and adults and for children.

29. There are at least five distinct pathways to gender dysphoria: (i) early childhood onset; (ii) onset near or after puberty with no prior cross gender patterns; (iii) onset after defining oneself as gay for several or more years and participating in a homosexual lifestyle; (iv) adult onset after years of heterosexual transvestism; (v) and onset in later adulthood with few or no prior indications of cross-gender tendencies or identity. (Levine 2021.)

30. Gender dysphoria has very different characteristics depending on age, sex, and era. Young children who are living a transgender identity commonly suffer

materially fewer symptoms of concurrent mental distress than do older patients. (Zucker 2018 at 10.) The developmental and mental health patterns for each of these groups are sufficiently different that data developed in connection with one of these populations cannot be assumed to be applicable to another.

31. The criteria used in DSM-5-TR to identify Gender Dysphoria include signs of discomfort with one's sex and vary somewhat depending on the age of the patient, but in all cases require "clinically significant distress or impairment in . . . important areas of functioning" such as social, school, or occupational settings. The symptoms must persist for at least six months. The diagnostician must consider whether the impairments are developmentally due to the incongruence, per se, and not symptoms of another underlying developmental difficulties. This is a very difficult discernment to make. In medical tradition, the diagnosis of gender dysphoria is a conclusion that is reached after a thorough consideration of other problems that may masquerade as gender dysphoria. This process of discernment is widely known as a differential diagnostic process.

32. Children who conclude that they are transgender are often unaware of a vast array of adaptive possibilities for how to live life as a man or a woman—possibilities that become increasingly apparent over time to both males and females. A boy or a girl who claims or expresses interest in pursuing a transgender identity often does so based on stereotypical notions of femaleness and maleness that reflect constrictive notions of what men and women can be. (Levine 2017 at 7.) A young child's—or even an adolescent's—understanding of this topic is quite limited. When asked why they so identify, they often cannot state a cogent reason why. Nor can they grasp what it may mean for their future to be sterile or sexually dysfunctional. (Levine et al. 2022.) These children and adolescents consider themselves to be relatively unique; they do not realize that discomfort with the body and perceived social role is neither rare nor new to civilization. (Jorgensen 2023.) What is culturally

new is that such discomfort is thought to indicate that they must be an example of a trans person.

C. Impact of gender dysphoria on minority and vulnerable groups.

33. Given that, as I discuss later, a diagnosis of gender dysphoria is now frequently putting even young children on a pathway that leads to irreversible physical changes and sterilization by young adulthood, it should be of serious concern to all practitioners that minority and vulnerable groups are receiving this diagnosis at disproportionately high rates. These include: children of color (Rider et al. 2018), children with mental developmental disabilities (Reisner et al. 2015), children on the autistic spectrum (at a rate more than 7x the general population) (Shumer et al. 2016; van der Miesen et al. 2018), children with ADHD (Becerra-Culqui et al. 2018), children residing in foster care homes, adopted children (at a rate more than 3x the general population) (Shumer et al. 2017), victims of childhood sexual or physical abuse or other “adverse childhood events” (Thoma et al. 2021; Newcomb et al. 2020; Kozłowska et al. 2021), children with a prior history of psychiatric illness (Edwards-Leeper et al. 2017; Kaltiala-Heino et al. 2015; Littman 2018), and more recently adolescent girls (in a large recent study, at a rate more than 2x that of boys). (Rider et al. 2018 at 4.)

D. Three competing conceptual models of gender dysphoria and transgender identity.

34. Discussions about appropriate responses by mental health professionals (“MHPs”) to actual or sub-threshold gender dysphoria are complicated by the fact that various speakers and advocates (or a single speaker at different times) view transgenderism through at least three very different paradigms, often without being aware of, or at least without acknowledging, the distinctions. These paradigmatic lenses are: physical illness, developmental, and civil rights.

35. Gender dysphoria is conceptualized and described by some professionals and laypersons, particularly in court rooms, as though it were a **serious, physical medical illness** that causes suffering, comparable to diseases that are curable before they spread, such as melanoma or sepsis. Within this paradigm, whatever is causing distress associated with gender dysphoria—whether menstruation, facial hair, nose and jaw shape, presence or absence of breasts, or the sex organs of testes, ovaries, penis, or vagina—should be removed to alleviate the illness.

36. The medical paradigm of understanding gender dysphoria is inaccurate. Gender dysphoria is a psychiatric, not a medical, diagnosis. Since its inception in DSM-III in 1980, it has always been specified in the psychiatric DSM manuals and has not been specified in medical diagnostic manuals. Notably, gender dysphoria is the only psychiatric condition with no known biological abnormality to be treated by hormones and surgery. (Levine 2016 at 240.)

37. Gender dysphoria is alternatively **conceptualized in developmental** terms, as an adaptation to a psychological problem that may have been first manifested as a failure to establish a comfortable sense of self in early childhood. This paradigm starts from the premise that all human lives are influenced by past processes and events. The lives of those with a current trans identity are not exceptions to this axiom. (Levine 2016 at 238.) MHPs who think of gender dysphoria through this paradigm may work both to identify and address causes of the basic problem of the deeply uncomfortable self or a sense of self impaired by later adversity or abuse. The purpose is to ameliorate suffering when the underlying problem cannot be solved. MHPs first work with the patient and (ideally) family to learn about the events and processes that may have led to the trans-identifying person repudiating the gender associated with his or her sex. The developmental paradigm is mindful of temperamental, parental bonding, psychological, sexual, and physical trauma influences, and the fact that young children work out their psychological issues

through fantasy and play and adolescents work out their issues by adopting various interests and identity labels.

38. There is evidence among adolescents that peer social influences through “friend groups” (Littman 2018) or through the internet can increase the incidence of gender dysphoria or claims of transgender identity. Responsible MHPs will want to probe these potential influences to better understand what is truly deeply tied to the psychology of the patient, and what may instead be being “tried on” by the youth as part of the adolescent process of self-exploration and self-definition. The dramatic recent increase in adolescents who do not identify as heterosexual is evidence of social influences in today’s cultural environment. Among this larger group, the segment who identify as binary and nonbinary transgender persons have been seeking assistance and overwhelming clinical services in many countries, particularly in the UK. (Cass 2022 at 32–34, 45–47, 56.)

39. In addition, the developmental paradigm recognizes that, with the important exception of genetic sex, essentially all aspects of an individual’s identity evolve—often markedly—across the individual’s lifetime. This includes a person’s understanding of gender. Some advocates assert that a transgender identity is biologically caused, fixed from early life, and eternally present in an unchanging manner—it is often raised as a justification for medical and surgical interventions. As I review later, however, this assertion is not supported by science.²

40. The third paradigm through which gender dysphoria is alternatively conceptualized is from **a sexual minority rights perspective**. Under this paradigm, any response other than medical and societal affirmation and implementation of a patient’s claim to “be” the opposite gender is a violation of the

² Even the advocacy organization The Human Rights Campaign asserts that a person can have “a fluid or unfixed gender identity.”
<https://www.hrc.org/resources/glossary-of-terms>.

individual's civil right to self-expression. Any effort to ask "why" questions about the patient's condition, or to address underlying causes, is viewed as a violation of autonomy and civil rights. In the last few years, this paradigm has been successful in influencing public policy and the education of pediatricians, endocrinologists, and many mental health professionals. Obviously, however, this is not a medical or psychiatric perspective. Unfortunately, it appears to be the most powerful perspective that exists in the public, non-scientific debate.

E. Four competing models of therapy.

41. Few would disagree that the human psyche is complex. Few would disagree that children's and adolescents' developmental pathways typically have surprising twists and turns. The complexity and unpredictability of childhood and adolescent development equally applies to trans-identifying youth. Because of past difficulties of running placebo-controlled clinical trials in this arena, substantial disagreements among professionals exist about the causes of trans identities and their ideal treatments. These current disagreements might have been minimized if trans treated persons were carefully followed up to determine long term outcomes. They have not been. When we add this to the very different current paradigms for understanding transgender phenomena, it is not scientifically surprising that disagreements are sharply drawn. It is with this in mind that I summarize below the leading approaches and offer certain observations and opinions concerning them.

1. The two "watchful waiting" therapy models.

42. In Section VI.A below I review the uniform finding of eleven follow-up studies that the large majority of children who present with gender dysphoria will desist from desiring a transgender identity by adulthood if left untreated by social transition approaches.

43. When a pre-adolescent child presents with gender dysphoria, a "watchful waiting" approach seeks to allow for the fluid nature of gender identity in

children to naturally evolve—that is, take its course from forces within and surrounding the child. After a comprehensive evaluation of the child or adolescent and with the parents, a first model of “watchful waiting” prescribes no treatment except a regular follow up appointment to ascertain how the minor and the family are doing and what else might be useful. Informally, model #1 can be referred to as an “hands off” approach to let development proceed. The therapist, however, establishes their interest in the person and wants to remain in touch regularly.

44. Model #2 of the watchful waiting has no focus on the minor’s gender identity per se. It is based on treating psychological co-morbidities—that is, other mental illnesses as defined by DSM-5-TR (separation anxiety disorder, attention deficit hyperactivity disorder, autism spectrum disorder, obsessive compulsive disorder, etc), or subthreshold for diagnosis but behavioral problems that the child may exhibit (school avoidance, bedwetting, inability to make friends, aggression/defiance). When gender is understood and expected to be one of the subjects of and for the intervention, a third model becomes apparent.

2. The psychotherapy model: Alleviate distress by identifying and addressing causes (model #3).

45. One of the foundational principles of psychotherapy has long been to work with a patient to identify the causes of observed psychological distress and then to address those causes as a means of alleviating the distress. The National Institute of Mental Health has promulgated the idea that 75% of adult psychopathology has its origins in childhood experience.

46. Many experienced practitioners in the field of gender dysphoria, including myself, have believed that it makes sense to employ these long-standing tools of psychotherapy for patients suffering gender dysphoria, asking the questions: What factors in the patient’s life are the determinants of the patient’s repudiation of his or her sex and What is it about the other gender that you desire to incorporate

into your life? (Levine 2017 at 8; Spiliatis 2019; Levine 2021; Levine et al. 2022.) I and others have reported success in alleviating distress in this way for at least some patients, whether the patient's sense of discomfort or incongruence with his or her sex entirely disappeared or not. Relieving accompanying psychological co-morbidities leaves the patient freer to consider the pros and cons of transition as he or she matures. It improves their capacity to understand the gravity of the transition that they seem to want to undertake. It also improves their capacities for prudent autonomy (D'Angelo 2023).

47. Among other things, the psychotherapist who is applying traditional methods of psychotherapy may help—for example—the male patient to appreciate the wide range of masculine emotional and behavioral patterns as he grows older. He may discuss with his patient, for example, that one does not have to become a “woman” to be kind, compassionate, caring, noncompetitive, to love the arts, and to be devoted to others' feelings and needs. (Levine 2017 at 7.) Many biological males identifying as transgender, from childhood to older ages, speak of their perceptions of femaleness as enabling them to discuss their feelings openly, whereas they perceive boys and men to be constrained from emotional expression within the family and larger culture, and to be aggressive. Men, of course, can be emotionally expressive, just as they can wear pink. Converse examples can be given for girls and women. Girls don't have to conform to stereotypic media images that bombard them, nor do they have to have the traits and the problems that they see in the women in their families. These types of ideas regularly arise during psychotherapies.

48. Many gender-nonconforming children and adolescents in recent years derive from minority and vulnerable groups who have reasons to feel isolated and have an uncomfortable sense of self. A trans identity may be a hopeful attempt to redefine the self in a manner that increases their comfort and decreases their anxiety. The clinician who uses traditional methods of psychotherapy may not focus on their

gender identity, but instead work to help them to address the actual sources of their discomfort. They may enable the patient to understand the commonality of discomfort with the body's physiology, the growth process, and the struggle to accept oneself during the pubertal developmental process. Patients need to understand that this discomfort with one's body, *per se*, and one's attractiveness relative to others, typically lasts for several or more years. Success in this effort may remove or reduce the desire for a redefined identity. This often involves a focus on disruptions in their attachment to parents in vulnerable children, for instance, those in the foster care system.

49. Because "watchful waiting" can include treatment of accompanying psychological co-morbidities, and the psychotherapist who hopes to relieve gender dysphoria may focus on potentially causal sources of psychological distress rather than on the gender dysphoria itself, there is no sharp line between "watchful waiting" and the psychotherapy model in the case of prepubescent children.

50. There is no evidence beyond anecdotal reports that psychotherapy can enable a return to male identification for genetically male boys, adolescents, and men, or return to female identification for genetically female girls, adolescents, and women. On the other hand, anecdotal evidence of such outcomes does exist; I and other clinicians have witnessed reinvestment in the patient's biological sex in some individual patients who are undergoing psychotherapy. The Internet contains many such reports, and I have published a paper on a patient who sought my therapeutic assistance to reclaim his male gender identity after 30 years living as a woman and is in fact living as a man today. (Levine 2018b.) I have seen children desist even before puberty in response to thoughtful parental interactions and a few meetings of the child with a therapist. There are now a series of articles and at least one major book on the psychological treatment of adolescents. (*See, e.g.*, D'Angelo et al. 2021; Evans & Evans 2021.)

51. Among detransitioners, a large percentage of this growing population express regret that their affirmative therapists did not recommend psychotherapy before encouraging hormonal treatment. (Littman 2021.) Exposito-Campos pointed out the large number of reports on detransition and the far greater traffic on various nonprofessional websites. (Exposito-Campos 2021.) More recently, detransition and regret have been discussed in a balanced manner acknowledging its complexities. (Jorgensen 2023; *see also* Levine & Abbruzzese 2023.) It needs to be understood that when comparing anecdotal reports of the psychotherapy, the convictions of affirmative care interventionists are also based on anecdotal experiences and what they have been taught by their educators. Among her many cogent observations in this field, Clayton has illuminated the power of the placebo effect in the medicalization of trans youth wherein the patient's expectations, the professionals' beliefs, and social movements combine to create short lived symptom relief yielding the illusion of long-term benefit without supporting data. (Clayton 2023 at 487–90.) And as reviewed in one of the world's most prestigious medical journals, the science in this field is uncertain. (Block 2023 at 2–4. *See also* Section IV.)

3. The affirmation therapy model (model #4).

52. While it is widely agreed that, under any model, the therapist should not directly challenge a claimed transgender identity in a child (“No, you are not actually a boy”, for instance), there are kind, supportive ways to inquire about the child's self-understanding. Some advocates and practitioners go much further and consider that no inquiry should ever occur. They promote and recommend that any expression of transgender identity should be immediately accepted as decisive, and thoroughly affirmed by means of consistent use of clothing, toys, pronouns, etc., associated with transgender identity. They argue that the child should be comprehensively re-socialized in grade school or junior or senior high school in their aspired-to gender. As I understand it, this is asserted as a reason why male students

who assert a female gender identity must be permitted to compete in girls' or women's athletic events, use girl's bathrooms, and be addressed with a feminine name and pronouns. These advocates treat any question about the causes of the child's current transgender identification as inappropriate. Advocates assume that observed psychological co-morbidities in the children or their families are unrelated or will get better with transition and need not be addressed by the MHP who is providing supportive guidance concerning the child's gender identity.

53. Some advocates, indeed, assert that unquestioning affirmation of any claim of transgender identity in children is essential, and that the child will otherwise face a high risk of suicide or severe psychological damage. This claim is simply not supported by the clinical data we have available to us. Indeed, available long-term data contradicts this claim. I address physical and mental health outcomes in Section VIII below, and suicide in Section IX below.

54. The commonly referenced scientific basis for affirmative care of both early life onset and adolescent onset gender dysphoria are two reports from de Vries et al. (2011, 2014) that seemingly demonstrated the resolution of gender dysphoria after a sequence of puberty blocking hormones, cross-sex hormones, and breast removal or vaginoplasty. However, recently three articles describing the distinct limitations of the "Dutch Protocol" have been widely circulating throughout the world. (Levine et al. 2022; Biggs 2022; Abbruzzese et al. 2023.) It is now apparent that the basis for such affirmative care is not scientifically solid. Rapid diffusion of the innovative Dutch Protocol occurred without the scientifically required confirmatory, more rigorous studies. The one attempt to repeat their protocol in the UK failed to demonstrate psychological benefits claimed by the Dutch studies. (Carmichael et al. 2021.)

55. I do not know what proportion of practitioners are using which model. However, in my opinion, in the case of young children, prompt and thorough

affirmation of a transgender identity disregards the principles of child development and family dynamics and is not supported by science. Instead of science, this approach is currently being reinforced by an echo-chamber of approval from other like-minded child-oriented professionals who do not sufficiently consider the known negative medical and psychiatric outcomes of trans-identifying adults. Rather than recommend social transition in grade school, the MHP must focus attention on the child's underlying internal and familial issues. Ongoing relationships between the MHP and the parents, and the MHP and the child, are vital to help the parents, child, other family members, and the MHP to understand over time the issues that need to be dealt with by each of them. As I discuss further in Section IV.F below, it should be noted that the distinct trend in western Europe is to make psychotherapy, not affirmation, the first approach to gender dysphoria in children and adolescents.

56. Likewise, since the child's sense of gender develops in interaction with his parents and their own gender roles and relationships, the responsible MHP will almost certainly need to delve into family and marital dynamics. This, however, requires time and effort and for many parents, a challenge to find a therapist to do such work with them. It also assumes that when a MHP is first involved with a transgender-identified minor, a comprehensive psychiatric evaluation ensues. Even organizations that strongly prioritize gender transition consider such an evaluation to be a minimal threshold requirement. (Hembree et al. 2017 at 3872, 3876.) Unfortunately, many children are evaluated only in terms of their gender identity, and their parents are ill-informed about the risks and benefits of affirmative care. (Levine et al. 2022; Bisno et al. 2023.)

**IV. THERE IS NO CONSENSUS OR AGREED “STANDARD OF CARE”
CONCERNING THERAPEUTIC APPROACHES TO CHILD OR
ADOLESCENT GENDER DYSPHORIA.**

57. There is far too little firm clinical evidence in this field to permit any evidence-based standard of care. Given the lack of scientific evidence, it is neither surprising nor improper that—as I detailed in Section III—there is a diversity of views among practitioners as to the best therapeutic response for the child, adolescent, or young adult who suffers from gender dysphoria. (Block 2023. *See also* Section IV.F below.)

58. Reviewing the state of opinion and practice in 2021, the Royal Australian and New Zealand College of Psychiatrists observed that “There are polarised views and mixed evidence regarding treatment options for people presenting with gender identity concerns, especially children and young people.” (RANZCP 2021.) Similarly, a few years earlier prominent Dutch researchers noted: “[T]here is currently no general consensus about the best approach to dealing with the (uncertain) future development of children with GD, and making decisions that may influence the function and/or development of the child—such as social transition.” (Ristori & Steensma 2016 at 18.)³ In this Section, I comment on some of the more important areas of disagreement within the field.

**A. Experts and organizations disagree as to whether “distress” is
a necessary element for diagnoses that justify treatment for
gender identity issues.**

59. As outlined in Section III.B above, “clinically significant distress” is one of the criteria used in DSM-5-TR to identify gender dysphoria. This indicates a heightened level of distress that rises beyond a threshold level of social awkwardness or discomfort with the changing body. It is known that many trans-identified youth with incongruence between their sexed bodies and their gender identity choose not to

³ *See also* Zucker 2020 which questions the merit of social transition as a first-line treatment.

take hormones; their incongruence is quite tolerable as they further clarify their three elements of sexual identity—gender identity, orientation, and intention (what the person wants to do with a partner’s body during sex and what that person wants to do to their own body to be aroused). This population raises the questions of what distress is being measured when DSM-5-TR criteria are met and what else might be done about it. However, there is no “clinically significant distress” requirement in World Health Organization’s International Classification of Diseases (ICD-11) criteria for gender incongruence, which rather indicates “a marked and persistent incongruence between an individual’s experienced gender and the assigned sex.” (World Health Organization 2019.)

60. Therefore, even between these two committee-based authorities, there is a significant disagreement as to what constitutes a gender condition justifying life-changing interventions. To my knowledge, some American gender clinics and practitioners are essentially operating under the ICD-11 criteria rather than the DSM-5-TR criteria, prescribing social transition for children, hormonal interventions for slightly older children, and different hormones for adolescents who assert a desire for a transgender identity whether or not they are exhibiting “clinically significant distress.” Others adhere to the DSM-5-TR diagnostic standard.

61. Affirmative care is said by advocates to be life enhancing and often to be lifesaving on the theory it will reduce suicide. Based on the DSM-5-TR criterion, distress is required for the diagnosis and its subsequent hormonal and surgical treatments. Gender incongruence is often referred to as a unique form of suffering. Yet, ICD-11 the criteria for the diagnosis of Gender Incongruence do not require distress, just the wish to have the characteristics of the other sex and to change their own sex demarcating features. This is ironic: dramatic interventions are claimed to be medically necessary to avoid incomparable suffering and suicide, yet now no distress is required for a medical intervention; just a desire for the intervention is all

that's necessary to establish "medical necessity." This is not legitimate from a medical point of view.

62. I will add that even from within one "school of thought," it is not responsible to make a single, categorical statement about the proper treatment of children or adolescents presenting with gender dysphoria or other gender-related issues. There is no single pathway to the development of a trans identity and no reasonably uniform short- or long-term outcome from medically treating it. As individuals grow physically, mature psychologically, and experience or fail to experience satisfying romantic relationships, their life course depends on their differing psychological, social, familial, and life experiences. There should be no trust in assertions that trans-identified youth must be treated in a particular manner to avoid harm for three reasons. First, there is no systematic data on the nature of, and the rate of harms or benefits of either affirmative treatment, no treatment, or psychological only treatment. Second, as in other youthful psychiatric and other challenges, outcomes vary. Third, many psychological, social, and experiential forces outside of medical professions' knowledge shape outcomes. Medical and surgical interventions do not necessarily take account of, nor resolve, the broader issues facing the youth in question. Advocates of rapid affirmation and medical interventions take no account of trans identifications that occur and disappear without ever being seen by a clinician. Awareness of this emerged from retrospective accounts of homosexual identified adults. There is no psychiatric condition—depression, anxiety, schizophrenia—where one size fits all.

B. Opinions and practices vary widely about the utilization of social transition for children and adolescents.

63. The World Professional Association for Transgender Health (WPATH) has published a guidance document under the title "Standards of Care." Below, I will provide some explanation of WPATH and its "Standards of Care," which are not the

product of a strictly scientific organization, and they are by no means accepted by all or even most practitioners as setting out best practices.

64. Here, however, I will note that WPATH does not take a position concerning whether or when social transition may be appropriate for pre-pubertal children. Instead, the WPATH “Standards of Care version 7” states that the question of social transition for children is a “controversial issue” and calls for mental health professionals to support families in what it describes as “difficult decisions” concerning social transition. Its version 8, however, avoids the word “controversial” even though it discusses the dangers of harms versus the possibility of benefits of early transition. (Coleman et al. 2022 at S577–78.)

65. Dr. Erica Anderson is a prominent practitioner in this area who identifies as a transgender woman, who was the first transgender president of USPATH, and who is a former board member of WPATH. Dr. Anderson recently resigned from those organizations and has condemned automatic approval of transition upon the request of a child or adolescent, noting that “adolescents . . . are notoriously susceptible to peer influence,” that transition “doesn’t cure depression, doesn’t cure anxiety disorders, doesn’t cure autism-spectrum disorder, doesn’t cure ADHD,” and instead that “a comprehensive biopsychosocial evaluation” should precede allowing a child to transition. (Davis 2022.) And as I have explained previously, my own view based on 50 years of experience in this area favors strong caution before approving life-altering interventions such as social transition, puberty blockers, or cross-sex hormones.

C. The WPATH “Standards of Care” is not an impartial or evidence-based document.

66. Because WPATH is frequently cited by advocates of social, hormonal, and surgical transition, I provide some context concerning that private organization and its “Standards of Care.” WPATH insists its guidance is evidence-based. But its

reviews of the evidence strikingly omit evidence to the contrary. This renders it unbalanced or biased and not in keeping with the traditions of respected clinical science.

67. I was a member of the Harry Benjamin International Gender Dysphoria Association from 1974 until 2001. From 1997 through 1998, I served as the Chairman of the eight-person International Standards of Care Committee that issued the fifth version of the Standards of Care. I resigned my membership in 2002 due to my regretful conclusion that the organization and its recommendations had become dominated by politics and ideology, rather than by scientific process, as it was years earlier. In approximately 2007, the Harry Benjamin International Gender Dysphoria Association changed its name to the World Professional Association for Transgender Health (WPATH).

68. WPATH is a voluntary membership organization. Since at least 2002, attendance at its biennial meetings has been open to trans-identifying individuals who are not licensed professionals. While this ensures taking patients' needs into consideration, it limits the ability for honest and scientific debate, for scientifically based policy, and means that WPATH can no longer be considered a purely professional organization. Its associate members are not health care professionals. The professional members have various medical specialties, various mental health degrees, and varying experience and approaches to caring for these patients. They share, however, the position that an affirmative care paradigm is the only effective treatment approach.

69. WPATH takes a decided view on issues as to which there is a wide range of opinion among professionals. WPATH explicitly views itself as not merely a scientific organization, but also as an advocacy organization. (Levine 2016 at 240.) WPATH is supportive to those who want sex reassignment surgery ("SRS"). Skepticism as to the benefits of SRS to patients, and strong alternate views, are not

well tolerated in discussions within the organization or their educational outreach programs. Such views have been known to be shouted down and effectively silenced by the large numbers of nonprofessional adults who attend the organization's biennial meetings. Two groups of individuals that I regularly work with have attended recent and separate WPATH continuing education sessions. There, questions about alternative approaches were quickly dismissed with "There are none. This is how it is done." Such a response does not accurately reflect what is known, what is unknown, and the diversity of clinical approaches in this complex field.

70. The reviews of WPATH's 7th version of standards of care published in 2021 by Dahlen et al. and Sapir in 2022 have clarified the low quality, low reliability, and bias inherent in its recommendations. (Dahlen et al. 2021 at 1, 7–8.) Its 8th version, which is three times the length of the 7th, has not gained additional confidence in its scientific merit. The Standards of Care ("SOC") document does not balance the benefits and risks of its recommendations and is not politically neutral. WPATH aspires to be both a scientific organization and an advocacy group for the transgendered. It articulates policy. These aspirations sometimes conflict. The limitations of the Standards of Care, however, are not at their root political. They are caused by the lack of rigorous research in the field, which allows room for passionate convictions on how to care for the transgendered. And, of course, once individuals have socially, medically, and surgically transitioned, WPATH members and the trans-identifying people themselves at the meetings are committed to supporting others in their transitions. Not only have some trans participants been distrustful or hostile to those who question the wisdom of these interventions, their presence makes it difficult for professionals to raise their concerns. Vocal trans rights advocates have a worrisome track record of attacking those who have alternative views. (*See, e.g.*, Dreger 2015; McNamara et al. 2022 at 1919.)

71. In recent years, WPATH has fully adopted some mix of the medical and civil rights paradigms. It has downgraded the role of counseling or psychotherapy as a requirement for these life-changing processes. WPATH no longer considers preoperative psychotherapy to be a requirement. It is important to WPATH that the person has gender dysphoria; but the pathway to the development of this state is not. (Levine 2016 at 240.) The trans-identifying person is assumed to have thoughtfully considered his or her options before seeking hormones. That assumption cannot be justified in persons as young as age 11 when hormones are likely to be contemplated.

72. Most psychiatrists and psychologists who treat patients suffering distress from gender dysphoria sufficiently severe to seek inpatient psychiatric care are not members of WPATH. Many psychiatrists, psychologists, and pediatricians who treat some patients suffering gender dysphoria on an outpatient basis are not members of WPATH. WPATH represents a self-selected subset of the profession along with its many non-professional members; it does not capture the clinical experiences of others. WPATH claims to speak for the medical profession; however, it does not welcome skepticism and therefore, deviates from the philosophical core of medical science. There are pediatricians, psychiatrists, endocrinologists, and surgeons who object strongly, on professional grounds, to transitioning children and providing affirmation in a transgender identity as the first treatment option. WPATH does not speak for all of the medical profession.

73. In 2010 the WPATH Board of Directors issued a statement advocating that incongruence between sex and felt gender identity should cease to be identified in the DSM as a pathology.⁴ This position was debated but not adopted by the (much

⁴ WPATH *De-Psychopathologisation Statement* (May 26, 2010), available at <https://wpath.org/policies> (last accessed July 14, 2023).

larger) American Psychiatric Association, which maintained the definitions and diagnoses of gender dysphoria as a pathology in the DSM-5 manual issued in 2013.

74. In my experience some current members of WPATH have little ongoing experience with the mentally ill, and many trans care facilities are staffed by MHPs who are not deeply experienced with recognizing and treating frequently associated psychiatric co-morbidities. Further, being a mental health professional, per se, does not guarantee experience and skill in recognizing and effectively intervening in serious or subtle patterns. Because the 7th version of the WPATH SOC deleted the requirement for psychotherapy, trans care facilities that consider these standards sufficient are permitting patients to be counseled to transition by means of social presentation, hormones, and surgery by individuals with master's rather than medical degrees. The 8th version of the SOC continues this tradition. When this document recommends a comprehensive psychiatric evaluation, it fails to elaborate its duration, the topics to be covered, and necessary treatment results of the commonly found previous and co-current psychiatric conditions. It emphasizes the evaluation; it does not emphasize what to do with the identified problems, other than to state that they must be under reasonable control. WPATH prioritizes the treatment of gender incongruence over the frequently encountered states of depression, anxiety, social and school avoidance, etc.

D. Opinions and practices differ widely with respect to the proper role of psychological counseling before, as part of, or after a diagnosis of gender dysphoria

75. In version 7 of its Standards of Care, released in 2012, WPATH downgraded the role of counseling or psychotherapy, and the organization no longer sees psychotherapy without transition and hormonal interventions as a potential path to eliminate gender dysphoria by enabling a patient to return to or achieve comfort with the gender identity aligned with his or her biology. And in 2017, the Endocrine Society removed the obligation for a mental health professional to conduct

a psychosocial evaluation prior to hormonal intervention in its guidelines. Around the world, many prominent voices and practitioners disagree. For example, renowned gender therapists Dr. Laura Edwards-Leeper and Dr. Erica Anderson (who, as mentioned above, has long lived as a transgender woman) have spoken out arguing that children and adolescents are being subjected to puberty blockers and hormonal intervention far too quickly, when careful and extended psychotherapy and investigation for potential causes of feelings of dysphoria (such as prior sexual abuse) should be the first port of call and might resolve the dysphoria. (Edwards-Leeper & Anderson 2021; Davis 2022.)

76. In a published position statement on gender dysphoria, the Royal Australian and New Zealand College of Psychiatrists emphasized the critical nature of mental health treatment for gender dysphoric minors, stressing “the importance of the psychiatrist’s role to undertake thorough assessment and evidence-based treatment ideally as part of a multidisciplinary team, especially highlighting co-existing issues which may need addressing and treating.” The Royal College also emphasized the importance of assessing the “psychological state and context in which Gender Dysphoria has arisen,” before any treatment decisions are made. (RANZCP 2021.)

77. Dr. Paul Hruz of the University of Washington St. Louis Medical School has noted, “The WPATH has rejected psychological counseling as a viable means to address sex–gender discordance with the claim that this approach has been proven to be unsuccessful and is harmful. (Coleman et al. 2012.) Yet the evidence cited to support this assertion, mostly from case reports published over forty years ago, includes data showing patients who benefited from this approach (Cohen-Kettenis and Kuiper 1984; Hruz, 2020.)

78. In several recent publications, my colleagues and I have demonstrated that both the Endocrine Society’s and WPATH’s citations for the scientific basis of

affirmative care of adolescents reference the same two Dutch studies. We have demonstrated in considerable detail the limitations of these studies, their lack of applicability to today's transgendered youth, and the dangers of following therapeutic fashion rather than evidence-based medicine. (Levine et al. 2022; Abbruzzese et al. 2023.)

79. A recent survey of board-certified endocrinologists in the United States who prescribe hormonal interventions for the purpose of gender affirmation demonstrates that opinion within the profession is spilt. (Bisno et al. 2023.) The survey noted that “42.9% of the respondents reported that their practice required documentation of a psychosocial evaluation from a mental health professional before initiating [hormones].” Hence, despite the position of WPATH and the Endocrine Society, US-based endocrinologists “are divided about requiring a baseline psychosocial evaluation before prescribing [hormones]” for the purpose of gender affirmation. (Bisno et al. 2023 at 465.)

E. Opinions and practices vary widely with respect to the administration of puberty blockers and cross-sex hormones.

80. There is likewise no broadly accepted standard of care with respect to use of puberty blockers. WPATH Standards of Care version 7 explicitly recognized the lack of any consensus on this important point, stating: “Among adolescents who are referred to gender identity clinics, the number considered eligible for early medical treatment—starting with GnRH analogues to suppress puberty in the first Tanner stages—differs among countries and centers. Not all clinics offer puberty suppression . . . The percentages of treated adolescents are likely influenced by the organization of health care, insurance aspects, cultural differences, opinions of health professionals, and diagnostic procedures offered in different settings.” (Coleman et al. 2012 at 13.) Notably, the recent version 8 of the WPATH “Standards of Care” does not include this language. (Coleman et al. 2022.)

81. The use of puberty blockers as a therapeutic intervention for gender dysphoria is often justified by reference to the seminal work of a respected Dutch research team that developed a protocol that administered puberty blockers to children no younger than age 14. However, it is well known that many clinics in North America now administer puberty blockers to children at much younger ages than the “Dutch Protocol” allows. (Zucker 2019.) The Dutch protocol only treated children with these characteristics: a stable cross gender identity from early childhood; dysphoria that worsened with the onset of puberty; were otherwise psychologically healthy; had healthy families; the patient and family agreed to individual and family counseling throughout the protocol. But the experience and results of the Dutch model is being used as a justification for giving puberty blockers to children who differ considerably from these criteria. Its authors have noted this fact. (de Vries 2020.)

82. However, Zucker notes that “it is well known” that clinicians are administering cross-sex hormones, and approving surgery, at ages lower than the minimum age thresholds set by that “Dutch Protocol.” (Zucker 2019 at 5.)

83. Internationally, there has been a recent marked trend against use of puberty blockers, as a result of extensive evidence reviews by national medical bodies, which I discuss later. (*See* Section IV.F below.)

84. In this country, some voices in the field are now publicly arguing that no comprehensive mental health assessment at all should be required before putting teens on puberty blockers or cross-sex hormones (Ghorayshi 2022), while Dr. Anderson and Dr. Edwards-Leeper argue that U.S. practitioners are already moving too quickly to hormonal interventions. (Edwards-Leeper & Anderson 2021; Davis 2022.) It is evident that opinions and practices are all over the map.

85. In 2018, the subcommittee on sexual minority youth of the American Academy of Pediatrics issued a policy statement supporting administration of puberty blockers to children diagnosed with gender dysphoria. No other American

medical association has endorsed the use of puberty blockers. Pediatricians are neither endocrinologists nor psychiatrists. Dr. James Cantor published a peer-reviewed paper detailing that the Academy's statement was not evidence-based and misdescribed the few scientific sources it did reference. (Cantor 2019.) It has been well noted in the field that the AAP has declined invitations to publish any rebuttal to Dr. Cantor's analysis. But this is all part of ongoing debate, simply highlighting the absence of any generally agreed standard of care. In 2022, the same committee of the AAP modified its recommendation supporting alternative treatments but still held out that affirmative care is still a viable option. Evidence after all is required for policy decisions and the 2018 evidence base is now widely appreciated as insubstantial. In August 2023, the AAP acknowledged the need for a systematic evidence review and commissioned one, while retaining the slight modification noted above. Dr. Gordon Guyatt of McMaster University, and author of the GRADE system, explained that the decision to promulgate and then retain a policy prior to the completion of a systematic review is "very clearly putting the cart before the horse." (Ghorayshi 2023.)

86. The 2017 Endocrine Society Guidelines themselves expressly state that they are not "standards of care." The document states: "The guidelines cannot guarantee any specific outcome, *nor do they establish a standard of care*. The guidelines are not intended to dictate the treatment of a particular patient." (Hembree et al. 2017 at 3895 (emphasis added).) Nor do the Guidelines claim to be the result of a rigorous scientific process. Rather, they expressly advise that their recommendations concerning use of puberty blockers are based only on "low quality" evidence.

87. The 2017 Guidelines assert that patients with gender dysphoria "require a safe and effective hormone regimen" Notably, however, the Guidelines do not make any firm statement that use of puberty blockers for this purpose is safe,

and the Guidelines go no further than “suggest[ing]” use of puberty blockers—language the Guidelines warn represents only a “weak recommendation.” (Hembree 2017 at 3871, 3872.) Several authors have pointed out that not only were the Endocrine Society suggestions regarding use of puberty blockers reached on the basis of “low quality” evidence, but any suggestion of ‘safety’ or ‘efficacy’ would be starkly contradicted by several in-depth evidence reviews. (Laidlaw et al. 2019; Malone et al. 2021.) The most recent systematic independent reviews of hormonal treatment of adolescents reaffirmed the poor quality of evidence making their use questionable (Ludvigsson et al. 2023; Taylor et al. 2024a.) I detail these contradictory findings in more detail in Sections IV.F and VIII below.

88. Notably, in developing a guideline on “the health of trans and gender diverse people,” the World Health Organization recently announced that it would address treatments of adults only and would not cover children or adolescents (WHO 2023.) Explaining this decision in an accompanying ‘FAQ’ document, the World Health Organization noted concerns over the existing evidence base for this population, stating that “on review, the evidence base for children and adolescents is limited and variable regarding the longer-term outcomes of gender affirming care for children and adolescents.” (WHO 2024.)

89. While there is too little meaningful clinical data and no consensus concerning best practices or a “standard of care” in this area, there are long-standing ethical principles that do or should bind all medical and mental health professionals as they work with, counsel, and prescribe for these individuals. (Levine et al. 2022.)

90. One of the oldest and most fundamental principles guiding medical and psychological care—part of the Hippocratic Oath—is that the physician must “do no harm.” This states an ethical responsibility that cannot be delegated to the patient. Physicians themselves must weigh the risks of treatment against the harm of not

treating. If the risks of treatment outweigh the benefits, principles of medical ethics prohibit the treatment even if the patient desires it.

F. European health authorities recognize that medical transition is unproven, experimental and dangerously uncertain.

91. On April 17, 2023, a systemic review of the hormonal treatment for children with gender dysphoria was published by an eight-person team of scientists with appointments in various departments: epidemiology, pediatrics, gastroenterology, health technology, clinical science, women's and children's health, psychiatry and neurochemistry, and neuroscience and physiology. (Ludvigssen et al. 2023.) The diverse backgrounds of reviewers free the committee from the bias of those who deliver the care. It is recognized as an ideal composition of professionals for this purpose. It is known that this report was one of the bases for Sweden's new national health policy, which makes psychotherapy (instead of hormonal treatment) the initial treatment approach for transgender-identified children and adolescents. Sweden now allows hormonal treatment to be offered to minors under the age of 16 only in research protocols. The article contains five tables, the last of which describes how future research should be conducted and reported. This table indirectly demonstrates the profound methodological problems with the current studies and gives guidance to the Karolinska Institute in Stockholm, at which future adolescents may be enrolled in research protocols.

92. This project assessed psychosocial effects, bone health, body composition and metabolisms, and therapy persistence in children less than age 18 years of age who were treated with puberty blockers. The study initially identified 9,934 English language articles on the topic, but as is usual for such processes, selected 24 studies from 2014 onward for intense scrutiny. The GRADE system, which provides four levels of evidence (very low, low, moderate, high), was used to analyze the 24 studies.

Puberty blockers (PB) were typically administered to patients between 11- and 15-years-old, but the actual age range spanned from 9 to 18.6 years.

93. Six studies focused on psychosocial and mental health parameters and found the benefits to be uncertain. Global function was evaluated for 113 patients, but the certainty of the evidence “[could not] be assessed.” When suicidal ideation was evaluated for 28 patients, there was no change noted and the certainty of evidence “[could not] be assessed.” Similar conclusions about the certainty of the evidence were made when assessing gender dysphoria, depression, anxiety, cognition, and quality of life. Each of the six studies was downgraded because of selection bias, lack of precision in measurement, absence of long-term follow-up, and inability to separate effects of the hormone from psychotherapeutic effects. One study of 20 patients on cognitive effects found no differences between the treated and untreated patients but had no pre- and post-treatment measurements. This missing method could have shown the variable effects from patient to patient—positive, negative, or no change. Mean data obscures this important information. (Ludvigssen et al. 2023.)

94. The evidence on bone density, based on six longitudinal studies, only one of which was prospective, was graded “low certainty.” Three studies found that before the start of PBs, bone density was lower than age mates. Bone mineralization increased less than age mate controls while on PBs, but the absolute density remained unchanged after two to three years. Even after five-plus years of cross sex hormones, the lumbar spine scores were significantly lower than before PBs were started, while other volume and femoral neck scores had normalized. A separate study of female to males on testosterone for 1–2 years failed to regain scores registered at the start of PBs.

95. Puberty blockers arrest the puberty growth spurt and lead to increased fat mass and decreased lean body mass.

96. Obesity at age 22 was more prevalent in the transgender populations.

97. From the abstract review of almost 10,000 studies, no randomized controlled studies were identified. In general, the 24 identified studies lacked control groups and intra-individual analyses, had high attrition rates (lost to follow-up or missing data), and failed to assess long term outcomes. No data were presented that dealt with those who stopped PBs. The authors noted that their conclusions were consistent with the UK systemic review. The Swedish review concluded that the effects on psychosocial and somatic health are “unknown.” (Ludvigssen et al. 2023.)

98. Like Sweden, Finland has also reversed course, issuing new guidelines that allow puberty blockers only on a case-by-case basis after an extensive psychiatric assessment. (COHERE 2020.) Finland’s reversal came after its own systematic review, which concluded that the methodological quality of studies underlying gender-affirming medical interventions was “weak.” (Pasternack et al. 2019; Kaltiala et al. 2020.) Finnish public health authorities concluded “In light of available evidence, gender reassignment of minors is an experimental practice.” (COHERE 2020.) Norway health authorities have also concluded that medical transition procedures in minors is experimental. (UKOM 2023.)

99. In the United Kingdom, a landmark legal challenge against the English National Health Service in 2020 by detransitioner Keira Bell led to the suspension of the use of puberty blockers and new procedures to ensure better psychological care, as well as an independent review of the use of puberty blockers and cross-sex hormones in children by the National Health Service, chaired by Dr. Hilary Cass—a former President of the Royal College of Pediatrics and Child Health.⁵ The Cass Review commissioned a thorough evidence review into puberty suppression and cross-sex hormones by the National Institute for Health and Care Excellence. (NICE

⁵ The decision requiring court approval for administration of hormones to any person younger than age 16 was later reversed on procedural grounds by the Court of Appeal.

2020a; NICE 2020b.) After the NICE evidence review, Dr. Cass issued an interim report in 2022 that noted the poor quality of data available internationally, expressed concern over the presence of serious but understudied risks, and emphasized the need to focus on the patients' psychological state rather than treating the gender incongruence first. (Cass 2022.)

100. In June 2023, the English National Health Service ("NHS") responded to the Cass Review interim report by issuing an Interim Service Specification confirming that it will not prescribe puberty blockers outside of formal research. (NHS England 2023a at 12–13.) The Interim Service Specification further states that the primary intervention for children and adolescents with gender dysphoria is psychological support. (NHS England 2023b at § 5.) The UK Council for Psychotherapy—a national registering body for psychotherapists in the UK—issued a statement after the Cass Review interim report in November 2023 stating, "it is imperative that all underlying aspects to someone's dysphoria are given the attention and exploration they deserve through professional psychotherapies, in order that the overall risks can be appropriately assessed prior to considering medical intervention." (UKCP 2023.)

101. In April 2024, Dr. Cass issued a final report reiterating many of the concerns described in the interim report around the evidence base supporting both social and medical transition and the presence of known and understudied risks. (Cass 2024.) The report specifically referenced WPATH, and noted that while WPATH had been highly influential in directing international practice, its guidelines had been found to "lack developmental rigour." (Cass 2024 at 28.) The report also directly criticized WPATH for overstating the strength of evidence in recommendations made in Version 8 of its "Standards of Care." (Cass 2024 at 132.)

102. A series of systematic reviews that accompanied the final Cass report, undertaken by a team of researchers at the University of York, further highlighted

the lack of high-quality evidence in the area. Specifically on *puberty blockers*, the team noted: “There are no high-quality studies using an appropriate study design that assess outcomes of puberty suppression in adolescents experiencing gender dysphoria/incongruence. No conclusions can be drawn about the effect on gender-related outcomes, psychological and psychosocial health, cognitive development or fertility. Bone health and height may be compromised during treatment.” (Taylor et al. 2024a. at 13.) On, *cross-sex hormones*, the team found: “No conclusions can be drawn about the effect on gender-related outcomes, body satisfaction, psychosocial health, cognitive development or fertility,” while noting that: “Uncertainty remains about the outcomes for height/growth, cardiometabolic and bone health.” (Taylor et al. 2024b at 13.) These reviews are consistent with all the published preceding systematic review papers on this topic.

103. The NHS in England responded to the final Cass report by confirming that puberty blockers would no longer be “routinely available” in clinical practice (NHS 2024), and the Scottish NHS responded by stating that patients “will no longer be prescribing gender affirming hormone treatment until they are 18 years old” (NHS Sandyford 2024).

104. Given these and similar findings from other systemic reviews free from commercial bias, such as those from McMaster University (Brignardello-Petersen & Wiercioch 2022) and Cochrane (Haupt et al. 2020), it is my opinion that the terms “experimental,” “unproven,” and “dangerously uncertain” are justified when considering the absence of long-term follow up data and the deficiencies within the current literature. Systemic data reviews are scientifically more reliable than individual reports with definable methodologic limitations. Without quoting extensively from the reviews done by Sweden, Finland, UK, and McMaster University, suffice it to say that their conclusions agree that the risks of puberty suppression and cross-sex hormones outweigh the possible benefits. They also point

to the great unexplained increase in incidence of gender dysphoria, the increased incidence of detransition and regret, and the lack of evidence of efficacy. (Swedish National Board of Health and Welfare 2022 at 3–4.)

105. In light of the findings in this Section, it is of interest why these European countries undertook scientific reviews. European countries, knowing about the experiment the Dutch gender clinic was conducting, quickly and uncritically adopted their methods. When the Dutch published their two outcome studies (de Vries et al. 2011; de Vries et al. 2014), the pace of hormonal and surgical interventions increased. However, many European clinicians were not seeing the positive outcomes the Dutch had described, clinics were overwhelmed by the numbers of new requests for services and promises to provide follow up studies were not kept. Health authorities in the UK and Scandinavian countries became alarmed and commissioned objective appraisals.

106. Given the considerable risk of harms, which include premature death (Jackson et al. 2023; Erlangsen et al. 2023), and the other problems discussed in this declaration, minors cannot provide well-informed consent for gender-affirming medical interventions. With their life experiences being limited and brain development being years from completion, parents are legally required to provide consent and the minor only assents. But parents cannot be expected to understand the limitations of the science pointed out by these European systemic reviews, particularly when American affirmative care clinicians and institutions that support gender-affirming care fail to understand the limitations of science in this politicized arena.

107. When the frequently encountered psychiatric co-morbidities of trans-identifying youth are taken into consideration—autism, depression, social avoidance, anxiety states, eating disorders, suicidality, and self-harming patterns—it becomes clear that a young person lacks the capacity to think through the momentousness of

the decision to receive gender-affirming medical interventions. We might expect U.S. physicians, who know the nature of scientific uncertainty, to be concerned with this haunting question of decision-making capacity, as have the Europeans. (Vrouenraets et al. 2020.)

108. In a recent article in *The Free Press*, Dr. Riittakerttu Kaltiala—chief psychiatrist in the department of adolescent psychiatry at Finland’s Tampere University Hospital who served as the head of Finland’s national pediatric gender program—has urged the American medical community to revisit the evidence. (Kaltiala 2023.) While Finland followed the “Dutch protocol” for several years, as head of the national gender program, Dr. Kaltiala noticed many of the trends that have caused many practitioners in the Western world cause for concern, including the skyrocketing case numbers, the marked change in epidemiology, the widespread presence of psychiatric co-morbidities, and eventually, the emergence of detransitioners. She observed that “[t]he young people we were treating were not thriving. Instead, their lives were deteriorating.”

109. Dr. Kaltiala says that further to the evidence reviews commissioned in Finland and elsewhere, “the foundation on which the Dutch protocol was based is crumbling,” and she feels an “increasing obligation to patients, to medicine, and to the truth, to speak outside of Finland against the widespread transitioning of gender distressed minors.” Dr. Kaltiala also expressed concern about the reluctance of U.S.-based medical groups to engage with these international insights, warning that “Doctors who refuse to consider evidence presented by critics are putting patient safety at risk.” (Kaltiala 2023.)

V. TRANSGENDER IDENTITY IS NOT BIOLOGICALLY BASED.

110. There is no medical consensus that transgender identity has any biological basis. Furthermore, there is considerable well-documented evidence that is

inconsistent with the hypothesis of a biological basis for gender identity—at least in the large majority of currently-presenting patients.

A. No theory of biological basis has been scientifically validated.

111. At the outset, the attempt to identify a single, biological cause for psychiatric conditions (including gender dysphoria) has been strongly criticized as “out of step with the rest of medicine” and as a lingering “ghost” of an understanding of the nature of psychiatric conditions that is now broadly disproven. (Kendler 2019 at 1088–1089.) Gender dysphoria is defined and diagnosed only as a psychiatric, not a medical, condition. Courts need to have clarified that just because some physicians use medication and surgery to treat gender dysphoria does not make it a “medical condition” or that the psychological identity has been determined by a biological mechanism.

112. While some have pointed to very small brain scan studies as evidence of a biological basis, no studies of brain structure of individuals identifying as transgender have found any statistically significant correlation between any distinct structure or pattern and transgender identification, after controlling for sexual orientation and exposure to exogenous hormones. (Saraswat et al. 2015 at 202; Frigerio et al. 2021 at 3345.) High quality scientific studies end with a limitations section. Therein authors recognize the need for caution in interpreting the preliminary findings and urge the next research steps. When authors declare that a trans identity is created by neuroanatomic structures that have always been present, they seem to be ignoring the caution that the original researchers have emphasized. Science repeatedly emphasizes that correlation does not equate to causation.

113. Indeed, the Endocrine Society 2017 Guidelines recognizes: “With current knowledge, we cannot predict the psychosexual outcome for any specific child,” and “there are currently no criteria to identify the GD/gender-incongruent children” who may benefit from social transition. “At the present time, clinical

experience suggests that persistence of GD/gender incongruence can only be reliably assessed after the first signs of puberty.” (Hembree et al. 2017 at 3876, 3879.) Based on the increasing numbers of adolescents who were assessed after puberty began, it is clear that even when a child has severe distress over his or her periods, breast, penile growth and erections, there is no guarantee of persistence. Detransitioners represent the uncertainty of pediatric decisions to medically treat distressed adolescents first with hormones.

114. In short, no biological test or measurement has been identified that provides any ability to predict which children will exhibit, and which children will persist in, gender dysphoria or a transgender identification. Unless and until such a test is identified, the theory of a biological basis is a hypothesis still searching for support.

B. Large changes across time and geography in the epidemiology of transgender identification are inconsistent with the hypothesis of a biological basis for transgender identity.

115. In fact, there is substantial evidence that the “biological basis” theory is incorrect, at least with respect to the large majority of patients presenting with gender dysphoria today.

116. **Vast changes in incidence:** Historically, there were very low reported rates of gender dysphoria or transgender identification. In 2013, the DSM-5 estimated the incidence of gender dysphoria in adults to be at 2–14 per 100,000, or between 0.002% and 0.014%. (DSM-5 at 454.) Recently, however, these numbers have increased dramatically, particularly in adolescent populations. Recent surveys estimate that between 2–9% of high school students self-identify as transgender or “gender non-conforming.” with a significantly large increase in adolescents claiming “nonbinary” gender identity as well. (Johns et al. 2019; Kidd et al. 2021.) Consistent with these surveys, gender clinics around the world have seen numbers of referrals increase rapidly in the last decade, with the Tavistock clinic in London seeing a 30-

fold increase in the last decade (GIDS 2019), and similar increases being observed in Finland (Kaltiala-Heino et al. 2018), the Netherlands (de Vries 2020), and Canada (Zucker 2019). The rapid change in the number of individuals experiencing gender dysphoria points to social and cultural, not biological, causes.

117. **Large change in sex ratio:** In recent years there has been a marked shift in the sex ratio of patients presenting with gender dysphoria or transgender identification. The Tavistock clinic in London saw a ratio of 4 biological females(F):5 biological males(M) shift to essentially 11F:4M in a decade. (GIDS 2019.) One researcher summarizing multiple sources documented a swing of 1F:2M or 1F:1.4M through 2005 to 2F:1M generally (but as high as 7F:1M) in more recent samples. (Zucker 2019 at 2.) This phenomenon has been noted by Dr. Erica Anderson, who said: “The data are very clear that adolescent girls are coming to gender clinics in greater proportion than adolescent boys. And this is a change in the last couple of years. And it’s an open question: What do we make of that? We don’t really know what’s going on. And we should be concerned about it.” (Davis 2022.) Again, this large and rapid change in who is experiencing gender dysphoria points to social, not biological, causes.

118. **Clustering:** Dr. Littman’s 2018 study documented “clustering” of new presentations of gender dysphoria among natal females in specific schools and among specific friend groups. This again points strongly to social causes for gender dysphoria at least among the adolescent female population. (Littman 2018.) It is increasingly rare to have only one adolescent identifying as transgender in large junior or senior high schools.

119. **Desistance:** As I discuss later, there are very high levels of desistance among children diagnosed with gender dysphoria, as well as increasing (or at least increasingly vocal) numbers of individuals who first asserted a transgender identity during or after adolescence, underwent substantial medical interventions to “affirm”

that trans-identity, and then “desisted” and reverted to a gender identity congruent with their sex. (See Section VI.B below.) These narratives, too, point to a social and/or psychological cause, rather than a biological one.

120. **“Fluid” gender identification:** Advocates and some practitioners assert that gender identity is not binary but can span an almost endless range of gender identity self-labels, which a given individual may try on, inhabit, and often discard. (A recent article identifies 72.⁶) I have not heard any theory offered for how there is or could be a biological basis for gender identity as now expansively defined.

121. I frequently read attempts to explain away the points in this Section. They include: these problems always existed, but children are now learning that there are effective treatments for their dilemma and are simply seeking them. And children have hidden their trans identity throughout childhood and now that trans-identifying people are recognized and accepted, they are presenting themselves. And now pediatricians realize that girls can have gender dysphoria and are referring them to gender clinics. But these are all mere hypotheses unsupported by concrete evidence. One set of unproven hypotheses cannot provide support for the unproven hypothesis of biological basis. And none of these hypotheses could even potentially explain the failure of science thus far to identify any predictive biological marker of transgender identification. There is much sociological evidence that in the last decade, increasing numbers of adolescents do not identify as the gender consistent with their sex. Biological phenomena do not evolve suddenly.

122. Therapies affect gender identity outcomes: Finally, the evidence shows that therapeutic choices can have a powerful effect on whether and how gender identity does change, or gender dysphoria desists. Social transition of juveniles, for

⁶ Allarakha, What Are the 72 Other Genders?, MedicineNet, available at: https://www.medicinenet.com/what_are_the_72_other_genders/article.htm.

instance, strongly influences gender identity outcomes to such an extent that it has been described a “unique predictor of persistence.” (Singh et al. 2021 at 14. *See* Section VII.B below.) Again, this observation cuts against the hypothesis of biological origin.

C. Disorders of sexual development (or DSDs) and gender identity are very different phenomena, and it is an error to conflate the two.

123. Some have pointed to individuals who suffer from disorders of sexual development (DSDs) as evidence that sex is not binary or clearly defined, or as somehow supporting the idea that transgender identification has a biological basis. I have extensively detailed that sex is clear, binary, and determined at conception. (Section III.A.) Here I explain that gender dysphoria is an entirely different phenomenon than DSDs—which unlike transgender identity are indeed biological phenomena. It is an error to conflate the two distinct concepts.

124. Every DSD reflects a genetic enzymatic defect with negative anatomic and physiological consequences. As the Endocrine Society recognized in a 2021 statement: “Given the complexities of the biology of sexual determination and differentiation, it is not surprising that there are dozens of examples of variations or errors in these pathways associated with genetic mutations that are now well known to endocrinologists and geneticists; in medicine, these situations are generally termed *disorders of sexual development (DSD) or differences in sexual development.*” Gender Identity on the other hand is consistently defined as a subjective sense of being, a feeling or state of mind. (Section III.A.)

125. The vast majority of those who experience gender dysphoria, or a transgender identity, do not suffer from any DSD, nor from any genetic enzymatic disorder at all. Conversely, many who suffer from a DSD do not experience a gender identity different from their chromosomal sex (although some may). In short, those who suffer from gender dysphoria are not a subset of those who suffer from a DSD,

nor are those who suffer from a DSD a subset of those who suffer from gender dysphoria. The two are simply different phenomena, one physical with psychological effects, the other mental with physical effects only if treated medically or surgically. The issue here is not whether biological forces play a role in personality development; it is whether there is strong evidence that it is determinative. Science has come too far to revert to single explanations for gender dysphoria or any psychiatric diagnosis.

126. The importance of this distinction is evident from the scientific literature. For example, in a recent study of clinical outcomes for gender dysphoric patients, Tavistock Clinic researchers *excluded* from their analysis any patients who did not have “normal endocrine function and karyotype consistent with birth registered sex.” (Carmichael et al. 2021 at 4.) In other words, the researchers specifically excluded from their study anyone who suffered from genetic-based DSD, or a DSD comprising any serious defect in hormonal use pathways, to ensure the study was focused only on individuals experiencing the psychological effects of what we might call “ordinary” gender dysphoria.

D. Studies of individuals born with DSDs suggest that there may be a biological predisposition towards *typical* gender identifications, but they provide no support for a biological basis for *transgender* identification.

127. Studies of individuals born with serious DSDs have been pointed to as evidence of a biological basis for transgender identification. They provide no such support.

128. One well-known study by Meyer-Bahlburg reviewed the case histories of a number of XY (i.e., biologically male) individuals born with severe DSDs who were surgically “feminized” in infancy and raised as girls. (Meyer-Bahlburg 2005.) The majority of these individuals nevertheless later adopted male gender identity—suggesting a strong biological predisposition towards identification aligned with genetic sex, even in the face of feminized genitalia from earliest childhood, and

parental “affirmation” in a transgender identity. But at the same time, the fact that some of these genetically male individuals did not later adopt male gender identity serves as evidence that medical and social influences can indeed encourage and sustain transgender identification.

129. Importantly, the Meyer-Bahlburg study did not include any individuals who were assigned a gender identity congruent with their genetic sex who subsequently adopted a transgender identity. Therefore, the study can provide no evidence of any kind that supports the hypothesis of a biological basis for transgender identity. A second study in this area (Reiner & Gearhart 2004) likewise considered exclusively XY subjects, and similarly provides evidence only for a biological bias towards a gender identity congruent with one’s genetic sex, even in the face of medical and social “transition” interventions. None of this provides any evidence at all of a biological basis for transgender identity.

VI. GENDER IDENTITY IS EMPIRICALLY NOT FIXED FOR MANY INDIVIDUALS.

130. There is extensive evidence that gender identity changes over time for many individuals.⁷ That evidence is summarized below.

A. Most children who experience gender dysphoria ultimately “desist” and resolve to cisgender identification.

131. A distinctive and critical characteristic of juvenile gender dysphoria is that multiple studies from separate groups and at different times have reported that in the large majority of patients, absent a substantial intervention such as social transition or puberty blocking hormone therapy, it does *not* persist through puberty.

132. A 2019 article reviewed all existing follow-up studies that the author could identify of children diagnosed with gender dysphoria (11 studies) and reported that “every follow-up study of GD children, without exception, found the same thing:

⁷ See *supra* note 1.

By puberty, the majority of GD children ceased to want to transition.” (Cantor 2019 at 1.) Another author reviewed the existing studies and reported that in “prepubertal boys with gender discordance . . . the cross gender wishes usually fade over time and do not persist into adulthood, with only 2.2% to 11.9% continuing to experience gender discordance.” (Adelson et al. 2012 at 963; *see also* Cohen-Kettenis et al. 2008 at 1895 and Singh et al. 2021.) The Endocrine Society recognized this important baseline fact in its 2017 Guidelines. (Hembree et al. 2017 at 3879.) It should be noted that the reason that the Dutch Protocol waited until age 14 to initiate puberty blockers was that it was well known that many children would desist if left free of hormonal intervention until that age.

133. Findings of high levels of desistance among children who experience gender dysphoria or incongruence have been reaffirmed in the face of critiques through thorough reanalysis of the underlying data. (Zucker 2018.)

134. As I explained in detail in Section V above, it is not yet known how to distinguish those children who will desist from that small minority whose trans identity will persist.

135. It does appear that prevailing circumstances during particularly formative years can have a significant impact on the outcome of a juvenile’s gender dysphoria. A 2016 study reviewing the follow-up literature noted that “the period between 10 and 13 years” was “crucial” in that “both persisters and desisters stated that the changes in their social environment, the anticipated and actual feminization or masculinization of their bodies, and the first experiences of falling in love and sexual attraction in this period, contributed to an increase (in the persisters) or decrease (in the desisters) of their gender related interests, behaviors, and feelings of gender discomfort.” (Ristori & Steensma 2016 at 16.) In 2022, Olson et al. published data about the very low rates of desistence five years after social transition of children between ages of 3 and 12. (Olson et al. 2022.) As I discuss again in Section VII below,

there is considerable evidence that early transition and affirmation causes far more children to persist in a transgender identity.

B. Desistance is increasingly observed among teens and young adults who first manifest GD during or after adolescence.

136. Desistance within a relatively short period may also be a common outcome for post-pubertal youths who exhibit recently described “rapid onset gender disorder.” I have observed an increasingly vocal online community of young women who have reclaimed a female identity after claiming a male gender identity at some point during their teen years, and young “detransitioners” (individuals in the process of reidentifying with their birth sex after having undergone a gender transition) are now receiving increasing attention in both clinical literature, social media channels, and increasingly in mainstream media.⁸

137. Almost all scientific articles on this topic have appeared within the last few years. Perhaps this historic lack of coverage is not entirely surprising—one academic who undertook an extensive review of the available scientific literature in 2021 noted that the phenomenon was “socially controversial” in that it “poses significant professional and bioethical challenges for those clinicians working in the field of gender dysphoria.” (Expósito Campos 2021 at 270.) This review reported on the multiple reasons for why individuals were motivated to detransition, which included coming to “understand[] how past trauma, internalized sexism, and other psychological difficulties influenced the experience of GD.”

138. In 2021, Lisa Littman conducted a ground-breaking study of 100 teenage and young adults who had transitioned and lived in a transgender identity for a number of years, and then “detransitioned” or changed back to a gender identity

⁸ See, e.g. Pamela Paul, As kids, they thought they were trans. They no longer do., *New York Times*, February 2, 2024, available at: <https://www.nytimes.com/2024/02/02/opinion/transgender-children-gender-dysphoria.html>

matching their sex. Littman noted that the “visibility of individuals who have detransitioned is new and may be rapidly growing.” (Littman 2021 at 1.) Of the 100 detransitioners included in Littman’s study, 60% reported that their decision to detransition was motivated (at least in part) by the fact that they had become more comfortable identifying as their natal sex, and 38% had concluded that their gender dysphoria was caused by something specific such as trauma, abuse, or a mental health condition. (Littman 2021 at 9.)

139. A significant majority (76%) did not inform their clinicians of their detransition. (Littman 2021 at 11.)

140. A similar study that recruited a sample of 237 detransitioners (the large majority of whom had initially transitioned in their teens or early twenties) similarly reported that a common reason for detransitioning was the subject’s conclusion that his or her gender dysphoria was related to other issues (70% of the sample); 62% reported that health concerns was the reason; 50% said that transition did not help their gender dysphoria; 45% found different ways of coping, and 43% explained that their political views changed. (Vandenbussche 2021.)

141. The existence of increasing numbers of youth or young adult detransitioners has also been noted by Dr. Edwards-Leeper and Dr. Anderson. (Edwards-Leeper & Anderson 2021.) Edwards-Leeper and Anderson noted “the rising number of detransitioners that clinicians report seeing (they are forming support groups online)” which are “typically youth who experienced gender dysphoria and other complex mental health issues, rushed to medicalize their bodies and regretted it.” Other clinicians working with detransitioners have also noted the recent phenomenon. (Marchiano 2021 at 823–25. *See also* Paragraph 104 above (noting Swedish recognition of increased incidence of detransition and regret).)

142. A growing body of evidence suggests that for many teens and young adults, a post-pubertal onset of transgender identification can be a transient phase

of identity exploration, rather than a permanent identity, as evidenced by a growing number of young detransitioners. (Entwistle 2020; Littman 2021; Vandebussche 2021.) Previously, the rate of detransition and regret was reported to be very low, although these estimates suffered from significant limitations and were likely undercounting true regret. (D'Angelo 2018.) Dr. Kaltiala—the head of Finland's national pediatric gender program—has expressed doubt over the low reported rates of detransition, noting that the studies asserting this “rest on biased questions, inadequate samples, and short timelines,” and believes that regret is far more widespread than reported. (Kaltiala 2023.) As gender-affirmative care has become popularized, the rate of detransition appears to be accelerating.

143. A study from a UK adult gender clinic observed that 6.9% of those treated with gender-affirmative interventions detransitioned within 16 months, and another 3.4% had a pattern of care suggestive of detransition, yielding a rate of probable detransition in excess of 10%. Another 21.7%, however, disengaged from the clinic without completing their treatment plan. While some of these individuals later re-engaged with the gender service, the authors concluded, “detransitioning might be more frequent than previously reported.” (Hall et al. 2021.)

144. Another study from a UK primary care practice found that 12.2% of those who had started hormonal treatments either detransitioned or documented regret, while the total of 20% stopped the treatments for a wider range of reasons. The mean age of their presentation with gender dysphoria was 20, and the patients had been taking gender-affirming hormones for an average 5 years (17 months-10 years) prior to discontinuing. Comparing these much higher rates of treatment discontinuation and detransition to the significantly lower rates reported by the older studies, the researchers noted: “Thus, the detransition rate found in this population is novel and questions may be raised about the phenomenon of overdiagnosis, overtreatment, or iatrogenic harm as found in other medical fields.” (Boyd et al. 2022)

at 15.) Indeed, given that regret may take up to 8-11 years to materialize (Dhejne et al. 2014; Wiepjes et al. 2018), many more detransitioners are likely to emerge in the coming years.

145. In 2023, Littman et al. published a further study of 78 U.S.-based teenagers and young adults who had who previously identified as transgender and had stopped identifying as transgender for at least six months. Among other findings, the results of that study indicated that while 61.5% of participants had obtained cross-sex hormones using the “informed consent” model of care, 66.7% felt they were inadequately informed about risks, and only one participant reported that a clinician provided information about treatment alternatives. (Littman et al. 2023 at 70.)

146. Detransitioner research is still in its infancy, but the Littman and Vandembussche studies report that detransitioners from the recently transitioning cohorts feel they were rushed into medical gender-affirmative interventions with irreversible effects, often without the benefit of appropriate, or in some instances any, psychologic exploration. In the last two years, two U.S. studies (Roberts et al. 2022 at 3; Cohen et al. 2023) each demonstrated a 29% drop out rate from hormone administration in four and two years, respectively. Since continued administration of hormones is necessary to continue the desired transgendered appearance, these reports suggest substantial desistance.

**VII. TRANSITION AND AFFIRMATION ARE IMPORTANT
PSYCHOLOGICAL AND MEDICAL INTERVENTIONS THAT
CHANGE GENDER IDENTITY OUTCOMES.**

**A. If both a typical gender or a transgender long-term gender
identity outcome are possible for a particular patient, the
alternatives are not medically neutral.**

147. Where a juvenile experiences gender dysphoria, the gender identity that is stabilized will have a significant impact on the course of their life. Living in a

transgender identity for a time will make desistance, if it is ever considered, more difficult to accomplish.

148. If the juvenile desists from the gender dysphoria and becomes reasonably comfortable with a gender identity congruent with their sex—the most likely outcome from a statistical perspective absent affirming intervention—the child will not require ongoing pharmaceutical maintenance and will not have their fertility destroyed post-puberty.

149. However, if the juvenile persists in a transgender identity, under current practices, the child is most likely to require regular administration of hormones for the rest of their lives, exposing them to significant physical, mental health, and relational risks (which I detail in Section X below), as well as being irreversibly sterilized chemically and/or surgically. The child is therefore rendered a “patient for life” with complex medical implications to further a scientifically unproven course of treatment.

B. Social transition of young children is a powerful psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance.

150. Social transition has a critical effect on the persistence of gender dysphoria. It is evident from the scientific literature that engaging in therapy that encourages social transition before or during puberty—which would include participation on athletic teams, being addressed as a member of a new gender with a new name and pronouns, and using different bathrooms—designated for the opposite sex—is a psychotherapeutic intervention that dramatically changes outcomes. A prominent group of authors has written that “The gender identity affirmed during puberty appears to predict the gender identity that will persist into adulthood.” (Guss et al. 2015 at 421.) Similarly, a comparison of recent and older studies suggests that when an “affirming” methodology is used with children, a substantial proportion of children who would otherwise have desisted by adolescence—that is, achieved

comfort identifying with their sex—instead persist in a transgender identity. (Zucker 2018 at 7.) Olson’s publication not only affirmed Zucker’s observation but provided very low rates of retransition or desistance among those socialized before or after grade school years. (Olson et al. 2022.)

151. Indeed, a review of multiple studies of children treated for gender dysphoria across the last three decades found that early social transition to living as the opposite sex severely reduces the likelihood that the child will revert to identifying with the child’s sex, at least in the case of boys. That is, while, as I review above, studies conducted before the widespread use of social transition for young children reported desistance rates in the range of 80-98%, a more recent study reported that fewer than 20% of boys who engaged in a partial or complete social transition before puberty had desisted when surveyed at age 15 or older. (Zucker 2018 at 7⁹; Steensma et al. 2013.¹⁰) Another researcher observed that a partial or complete gender social transition prior to puberty “proved to be a unique predictor of persistence.” (Singh et al. 2021 at 14.)

152. Some vocal practitioners of prompt affirmation and social transition even proudly claim that essentially *no* children who come to their clinics exhibiting gender dysphoria or cross-gender identification desist in that identification and return to a gender identity consistent with their biological sex.¹¹ This is a very large change as compared to the desistance rates documented apart from social transition.

⁹ Zucker found social transition by the child to be strongly correlated with persistence for natal boys, but not for girls. (Zucker 2018 at 5.)

¹⁰ Only 2 (3.6%) of 56 of the male desisters observed by Steensma et al. had made a complete or partial transition prior to puberty, and of the twelve males who made a complete or partial transition prior to puberty, only two had desisted when surveyed at age 15 or older. (Steensma 2013 at 584.)

¹¹ See, e.g., Ehrensaft 2015 at 34: “In my own clinical practice . . . of those children who are carefully assessed as transgender and who are allowed to

153. Even voices generally supportive of prompt affirmation and social transition are acknowledging a causal connection between social transition and this change in outcomes. As the Endocrine Society recognized in its 2017 Guidelines: “If children have completely socially transitioned, they may have great difficulty in returning to the original gender role upon entering puberty. . . [S]ocial transition (in addition to GD/gender incongruence) has been found to contribute to the likelihood of persistence.” (Hembree et al. 2017 at 3879.) The fact is that these unproven interventions with the lives of kids and their families have systematically documented outcomes. Given this observed phenomenon, I agree with Dr. Ken Zucker who has written that social transition in children must be considered “a form of psychosocial treatment.” (Zucker 2020 at 1.)

154. Moreover, as I review below, social transition cannot be considered or decided alone. Studies show that engaging in social transition starts a juvenile on a “conveyor belt” path that almost inevitably leads to the administration of puberty blockers, which in turn almost inevitably leads to the administration of cross-sex hormones. The emergence of this well-documented path means that the implications of taking puberty blockers and cross-sex hormones must be considered even where “only” social transition is being considered or requested by the child or family. As a result, there are important “known risks” associated with social transition.

155. This pathway was acknowledged in the final report of Dr. Cass, which noted that: “those who had socially transitioned at an earlier age and/or prior to being seen in clinic were more likely to proceed to a medical pathway.” (Cass 2024 at 31.) The report went on to urge a cautious approach to social transition for children given that “sex of rearing seems to have some influence on eventual gender outcome, and it is possible that social transition in childhood may change the trajectory of gender

transition to their affirmed gender, we have no documentation of a child who has ‘desisted’ and asked to return to his or her assigned gender.”

identity development for children with early gender incongruence.” (Cass 2024 at 164.)

C. Administration of puberty blockers is a powerful medical and psychotherapeutic intervention that radically changes outcomes, almost eliminating desistance on the historically observed timeline.

156. It should be understood that puberty blockers are usually administered to early-stage adolescents as part of a path that includes social transition. Yet medicine does not know what the long-term health effects on bone, brain, and other organs are of a “pause” between ages 11–16. Medicine also does not know if the long-term effects of these compounds are different in boys than in girls. The mental health professional establishment likewise does not know the long-term effects on coping skills, interpersonal comfort, and intimate relationships of this “pause” while one’s peers are undergoing their maturational gains in these vital arenas of future mental health. I address medical, social, and mental health risks associated with the use of puberty blockers in Section X. Here, I note that the data strongly suggests that the administration of puberty blockers, too, must be considered to be a component of a “psychosocial treatment” with complex implications, rather than simply a “pause.”

157. Multiple studies show that the large majority of children who begin puberty blockers go on to receive cross-sex hormones. (de Vries 2020 at 2.) A study by the Tavistock and Portman NHS Gender Identity Development Service (UK)—the world’s largest gender clinic at the time—found that 98% of adolescents who underwent puberty suppression continued on to cross-sex hormones. (Carmichael et al. 2021 at 12.)¹²

158. These studies demonstrate that going on puberty blockers virtually eliminates the possibility of desistance in juveniles. Rather than a “pause,” originally

¹² See also Brik 2020, where Dutch researchers found nearly 97% of adolescents who received puberty blockers proceeded to cross-sex hormones.

a rhetorical device to minimize its dangers, puberty blockers appear to act as a psychosocial “switch,” decisively shifting many children to a persistent transgender identity. Therefore, as a practical and ethical matter, the decision to put a child on puberty blockers must be considered as the equivalent of a decision to put that child on cross-sex hormones, with all the considerations and informed consent obligations implicit in that decision.

VIII. TRANSITION AND AFFIRMATION ARE EXPERIMENTAL THERAPIES THAT HAVE NOT BEEN SHOWN TO IMPROVE MENTAL OR PHYSICAL HEALTH OUTCOMES BY YOUNG ADULTHOOD.

159. At the outset of this section, it is worth commenting on the word “experimental” which I have used several times in this report. To be clear, I am not using it in the sense of a respect-worthy clinical process. A clinical “experiment” poses a question to be answered, employs a pre-defined, psychometrically validated instrument of measurement, has a control group, plans a statistical analysis of the data, and provides a careful follow-up of the subjects at various points in time. The experiment’s conclusions are provided in the context of possible limitations to its conclusions. Even studies that lack a clinical control group may qualify as an experiment if other criteria are met.

160. The other meaning of “experimental” that I am employing in this report is quite the opposite. It denotes proceeding therapeutically without the requisite scientific planning. It means providing an intervention that may seem innovative but lacks previous data to define the types of and rates of harms (or risks), and to define the hoped-for benefits and means of ascertaining them. “Experimental” in this context conveys an intervention without a conceptualized risks/benefits ratio—it implies a disregard of the underlying uncertainty and connotes professional irresponsibility.

A. The knowledge base concerning therapies for gender dysphoria is “very low quality.”

161. It is important for all to admit that the knowledge base concerning the causes and treatment of gender dysphoria has low scientific quality. In evaluating claims of scientific or medical knowledge, it is axiomatic in science that no knowledge is absolute, and to recognize the widely accepted hierarchy of reliability when it comes to “knowledge” about medical or psychiatric phenomena and treatments. Unfortunately, in this field opinion is too often confused with knowledge, rather than clearly locating what exactly is scientifically known. In order of increasing confidence, such “knowledge” may be based upon data comprising:

- a. Expert opinion—it is perhaps surprising to educated laypersons that expert opinion standing alone is the lowest form of knowledge, the least likely to be proven correct in the future. Reliance on well-known or well-credentialled “experts,” or the head of a gender clinic, is sometimes referred to as eminence-based medicine. Their opinions do not garner as much respect from professionals as what follows;
- b. A single case or series of cases (what could be called anecdotal evidence) (Levine 2016 at 239);
- c. A series of cases with a control group;
- d. A cohort study;
- e. A randomized double-blind clinical trial;
- f. A review of multiple trials;
- g. A meta-analysis of multiple trials that maximizes the number of patients treated despite their methodological differences to detect trends from larger data sets.

162. Prominent voices in the field have emphasized the severe lack of scientific knowledge in this field. This is especially true with respect to very young, preschool-age children. The American Academy of Child and Adolescent Psychiatry

has recognized that “Different clinical approaches have been advocated for childhood gender discordance. There have been no randomized controlled trials of any treatment. [T]he proposed benefits of treatment to eliminate gender discordance ... must be carefully weighed against ... possible deleterious effects.” (Adelson et al. 2012 at 968–69.) Similarly, the American Psychological Association has stated, “because no approach to working with [transgender and gender nonconforming] children has been adequately, empirically validated, consensus does not exist regarding best practice with pre-pubertal children.” (APA 2015 at 842.) The European Society of Child and Adolescent Psychiatry recently issued similar warnings, urging caution, outlining grave ethical concerns, and labelling hormonal interventions as experimental. (Drobnič Radobuljac et al. 2024.)

163. Critically, “there are no randomized control trials with regard to treatment of children with gender dysphoria.” (Zucker 2018 at 8.) On numerous critical questions relating to cause, developmental path if untreated, and the effect of alternative treatments, the knowledge base remains primarily at the level of the practitioner’s exposure to individual cases, or multiple individual cases. As a result, claims to certainty are not justifiable. (Levine 2016 at 239.)

164. Within the last two years, at least five formal, independent, systematic evidence reviews concerning hormonal interventions for gender dysphoria have been conducted. All five found all the available clinical evidence to be very low quality.

165. The British National Health Service (NHS) commissioned formal “evidence reviews” of all clinical papers concerning the efficacy and safety of puberty blockers and cross-sex hormones as treatments for gender dysphoria. These evidence reviews were performed by the U.K. National Institute for Health and Care Excellence (NICE), applying the respected “GRADE” criteria for evaluating the strength of clinical evidence.

166. Both the review of evidence concerning puberty blockers and the review of evidence concerning cross-sex hormones were published in 2020, and both found that all available evidence as to both efficacy and safety was “very low quality” according to the GRADE criteria. (NICE 2020a; NICE 2020b.) “Very low quality” according to GRADE means there is a high likelihood that the patient will not experience the hypothesized benefits of the treatment. (Balslem et al. 2011.)

167. Similarly, the highly respected Cochrane Library—the leading source of independent systematic evidence reviews in health care—commissioned an evidence review concerning the efficacy and safety of hormonal treatments now commonly administered to “transitioning transgender women” (i.e., testosterone suppression and estrogen administration to biological males). That review, also published in 2020, concluded that “We found insufficient evidence to determine the efficacy or safety of hormonal treatment approaches for transgender women in transition.” (Haupt et al. 2020 at 2.) It must be understood that both the NICE and the Cochrane reviews considered all published scientific studies concerning these treatments. A McMaster University’s skillful methodological unit reached the same conclusion, (Brignardello-Petersen & Wiercioch 2022), as did a team of authors from the United Kingdom and Sweden, (Thompson et al. 2023).

168. As to social transition, as I have noted above, considerable evidence suggests that socially transitioning a pre-pubertal child puts him or her on a path from which very few children escape—a path which includes puberty blockers and cross-sex hormones before age 18. And for some, surgery before the age of majority. A decision about social transition for a child must be made in light of what is known and what is unknown about the effects of those expected future interventions. Social transition, therefore, is not merely reversible behavioral change. It is the beginning of a medically dependent future and should be explained as such.

169. I discuss safety considerations in Section X below. Here, I detail what is known about the effectiveness of social and hormonal transition and affirmation to improve the mental health of individuals diagnosed with gender dysphoria.

B. Youth who adopt a transgender identity show no durable improvement in mental health after social, hormonal, or surgical transition and affirmation.

170. As I noted above, the evidence reviews for the efficacy and safety of hormonal interventions published in 2020 concluded that the supporting evidence is so poor that there is “a high likelihood that the patient will not experience the hypothesized benefits of the treatment.” (Thompson 2022.) There is now some concrete evidence that, on average, they do not experience those benefits.

171. An important paper published in 2021 by Tavistock clinic clinicians provided the results of the first longitudinal study that measured widely used metrics of general psychological function and suicidality before commencement of puberty blockers, and then at least annually after commencing puberty blockers. After up to three years, they “found no evidence of change in psychological function with GnRHa treatment as indicated by parent report (CBCL) or self-report (YSR) of overall problems, internalizing or externalizing problems or self-harm” as compared to the pre-puberty-blocker baseline evaluations. “Outcomes that were not formally tested also showed little change.” (Carmichael et al. 2021 at 18–19.) Similarly, a study by Bränström and Pachankis of the case histories of a set of adults diagnosed with GD in Sweden found no positive effect on mental health from hormonal treatment in terms of psychiatric service utilization. (Bränström & Pachankis 2020; Landéen 2020.)

172. Kiera Bell, who was diagnosed with gender dysphoria at the Tavistock Clinic, given cross-sex hormones, and treated by mastectomy, before desisting and reclaiming her female gender identity, and a Swedish teen girl who appeared in a

recent documentary after walking that same path, have both stated that they feel that they were treated “like guinea pigs,” experimental subjects. They are not wrong.

173. A cohort study by authors from Harvard and Boston Children’s Hospital found that youth and young adults (ages 12–29) who self-identified as transgender had an elevated risk of depression (50.6% vs. 20.6%) and anxiety (26.7% vs. 10.0%); a higher risk of suicidal ideation (31.1% vs. 11.1%), suicide attempts (17.2% vs. 6.1%), and self-harm without lethal intent (16.7% vs. 4.4%) relative to the matched controls; and a significantly greater proportion of transgender youth accessed inpatient mental health care (22.8% vs. 11.1%) and outpatient mental health care (45.6% vs. 16.1%) services. (Reisner et al. 2015 at 6.) Similarly, a longitudinal study of transgender and gender diverse youth and young adults in Chicago found rates of alcohol and substance abuse “substantially higher than those reported by large population-based studies of youth and adults.” (Newcomb et al. 2020 at 14.) Members of the clinical and research team at the prominent Dutch VU University gender dysphoria center compared mental health metrics of two groups of subjects before (mean age 14.5) and after (mean age 16.8) puberty blockers. But they acknowledged that the structure of their study meant that it “can . . . not provide evidence about . . . long-term mental health outcomes,” and that based on what continues to be extremely limited scientific data, “Conclusions about the long-term benefits of puberty suppression should . . . be made with extreme caution.” In other words, we just don’t know. (van der Miesen et al. 2020 at 703.)

174. A recent two-year prospective uncontrolled multisite NIMH study of 315 adolescents found that at the average age of 18 the primary benefit of hormones was happiness with their aesthetic appearance. The effects on depression and anxiety were very small and highly variable. There were two suicides in the study population, a strikingly high proportion. (Chen et al. 2023 at 243.) This work did not address the relevant long term mental health outcomes of such treatment before their two-year

finding. The authors did not report on many of the parameters they initially intended to present. In May 2022, a group from Sweden performed a systematic review of the mental health effects of hormonal transition. They concluded that candidates for hormones had a high percentage of mental health problems, and the methodological quality of the 32 papers studied (representing between 3,000 and 4,000 patients) did not allow for a firm answer as to whether mental health was improved by hormonal treatment. (Thompson et al. 2022.)

175. Recently, two large studies have been published that drew data from public healthcare system central registries in Denmark (Glintborg et al. 2023) and Finland (Kaltiala et al. 2023). Because both were registry studies, they had largely complete reliable datasets to analyze, and effectively no loss to follow-up. This is a powerful improvement over most follow-up studies that have large percentages of missing data.

176. In Denmark, the dataset encompassed 3812 patients who were diagnosed with gender identity disorders, spanning a period of 21 years. The authors found that measures of preexisting poor mental health did not decrease after date of first prescription of hormones. (Glintborg et al. 2023 at 342.) They found that in the year after medicalized transition, levels of psychiatric illness increased relative to control groups. (*Id.* at 343.)

177. In Finland, the dataset encompassed 3665 patients who were referred to national gender clinics across 28 years. The authors similarly found that “the proportion requiring specialist-level psychiatric treatment actually increased more among those who underwent medical [gender reassignment]” as compared to otherwise comparable patients who did not. They concluded that their “findings . . . do not suggest that medical GR interventions resolve psychiatric morbidity among people experiencing gender distress.” (Kaltiala et al. 2023).

178. As for social transition, a recent study examining data from the Tavistock clinic in London found that social transition was not associated with an improvement in mental health. (Morandini et al. 2023.) The study compared mental health outcomes for children and adolescents diagnosed with gender dysphoria who socially transitioned to those who had not. They found that there were no significant effects of social transition or name change on mental health status. Specifically, the study found that social transition or name change did not impact patients' mood, anxiety, or suicide attempts. (*Id.* at 1052.)

179. The team of researchers from the University of York, who conducted several systematic reviews to accompany the Cass Review, noted: "There are no prospective longitudinal studies with appropriate comparator groups which have assessed the impact of social transition on the mental health or gender-related outcomes for children or adolescents. Healthcare professionals, clinical guidelines and advocacy organisations should acknowledge the lack of robust evidence of the benefits or harms of social transition when working with children, adolescents and their families." (Hall et al. 2024 at 6.)

180. And the final report of Dr. Cass, while finding there was "no clear evidence that social transition in childhood has positive or negative mental health outcomes" (Cass 2024 at 164) specifically criticized WPATH for changing its position on social transition without appropriate justification: "WPATH 8 justifies [its] change in stance on the basis that there is more evidence on improved mental health outcomes with social transition, that fluidity of identity is an insufficient justification not to socially transition, and that not allowing a child to socially transition may be harmful. However, none of the WPATH 8 statements in favour of social transition in childhood are supported by the findings of the University of York's systematic review." (Cass 2024 at 163.)

181. Concluding, Dr. Cass’s final report instead raised concerns about the possible impact of social transition on mental health: “Given the weakness of the research in this area there remain many unknowns about the impact of social transition. In particular, it is unclear whether it alters the trajectory of gender development, and what short- and longer-term impact this may have on mental health.” (Cass 2024 at 163.)

C. Long-term mental health outcomes for individuals who persist in a transgender identity are poor.

182. The responsible MHP cannot focus narrowly on the short-term happiness of the young patient but must instead consider the happiness and health of the patient from a “life course” perspective. When we look at the available studies of individuals who continue to inhabit a transgender identity across adult years, the results are strongly negative.

183. In the United States, the death rates of trans-identifying veterans are comparable to those with schizophrenia and bipolar diagnoses—20 years earlier than expected. These crude death rates include significantly elevated rates of substance abuse as well as suicide. (Levine 2017 at 10.) Similarly, researchers in Sweden and Denmark have reported on almost all individuals who underwent sex-reassignment surgery over a 30-year period. (Dhejne et al. 2011; Simonsen et al. 2016.) The Swedish follow-up study similarly found a suicide rate in the post-SRS population 19.1 times greater than that of the controls; both studies demonstrated elevated mortality rates from medical and psychiatric conditions. (Levine 2017 at 10.)

184. A study in the American Journal of Psychiatry reported high mental health utilization patterns of adults for ten years after surgery for approximately 35% of patients. (Bränström & Pachankis 2020.) Indeed, earlier Swedish researchers in a long-term study of all patients provided with SRS over a 30-year period (median time since SRS of > 10 years) concluded that individuals who have SRS exhibit such poor

mental health that they should be provided very long-term psychiatric care as the “final” transition step of SRS. (Dhejne et al. 2011 at 6–7.) Unfortunately, across the succeeding decade, in Sweden and elsewhere their suggestion has been ignored.

185. A recent all-cause mortality study from the UK found a significant excess of deaths among trans-identifying individuals compared to age matched controls of both sexes. External causes of death (suicide, homicide, accidental poisoning) were particularly higher than control groups. The risk of death was 34% greater among trans-identified individuals than the general population. The mean age of the trans group was 36 years. (Jackson et al. 2023 at 4, 7.) A similar retrospective study from Denmark found the all-cause mortality ratio to be 1.7, significantly higher than controls. (Erlangsen et al. 2023 at 2151.) I will note that these studies do not tell us whether the subjects first experienced gender dysphoria as children, adolescents, or adults, so we cannot be certain how their findings apply to each of these subpopulations which represent quite different pathways. But in the absence of knowledge, we should be cautious.

186. Meanwhile, no studies show that affirmation of pre-pubescent children or adolescents leads to more positive outcomes (mental, physical, social, or romantic) by, e.g., age 25 or older than does “watchful waiting” or ordinary therapy. Even the Endocrine Society’s systematic review on hormone therapy and mental health noted that “[i]t was impossible to draw conclusions about the effects of hormone therapy on death by suicide.” (Baker 2021 at 12.)

187. The many studies that I have cited warn us that as we look ahead to the minor patient’s life as a young adult and adult, the prognosis for the physical health, mental health, and social well-being who transitions to live in a transgender identity is not good.

188. There is no scientific or rational basis to conclude that the science is settled that affirmative care permanently improves patient’s mental health. The

consistent findings from Europe and the United States that all-cause mortality is elevated should give health professionals, parents, teachers, and patients reason to think more clearly about the rush to affirm minors' transgender identities.

IX. TRANSITION AND AFFIRMATION DO NOT DECREASE, AND MAY INCREASE, THE RISK OF SUICIDE.

A. The risk of death by suicide among transgender youth is confused and exaggerated in the public mind.

189. Any discussion of suicide when considering younger children involves very long-range and very uncertain prediction. Suicide in pre-pubescent children is extremely rare, and the existing studies of gender identity issues in pre-pubescent children do not report significant incidents of suicide. Any suggestion otherwise is misinformed. Our focus for this topic, then, is on adolescents and adults.

190. Rates of suicidal thoughts and behaviors among trans-identifying teens or adults have been reported to range from 25% to 52%, generally through non-longitudinal self-reports obtained from non-representative survey samples. (Toomey et al. 2018.) Some advocates of affirmative care assert that the only treatment to avoid this phenomenon is to affirm gender identity. Contrary to these assertions, no studies show that the social or medical affirmation of a transgender identity in adolescents or adults reduces suicide, prevents suicidal ideation, or improves long-term outcomes, as compared to either a "watchful waiting" or a psychotherapeutic model of response, as I have described above.

191. In analyzing claims of high rates of suicidal ideation (and suicide), it is vital not to confuse death by suicide with suicide attempts that could have been lethal, from gestures that are a cry for help, from those that are manipulations to obtain something or to express rage, and from self-harming. Such distinctions are routinely made in emergency rooms when patients present with suicidal ideation, or forms of self-harm.

192. Suicidality in lesbian, gay, and bisexual youth is so common as to be considered “normal” within those communities and that sexual minority youth’s suicidal thoughts have different meanings than suicidal thoughts among similarly aged heterosexual youth. (Canneto et al. 2021.) Much of the discussion in this work refers to sexual minority youth, a term that commonly includes transgendered adolescents. Many transgendered adolescents also temporarily identify as gay, lesbian, or bisexual. This work’s understanding is relevant to them as well, since all sexual minority groups share a sexual-minority identity, attitudes, and fears.

193. Too often in public comment suicidal thoughts are blurred with suicide. Yet available data reveals that suicide among youth suffering from gender dysphoria is rare.

194. An important analysis of data covering patients as well as those on the waiting list (and thus untreated) at the UK Tavistock gender clinic—the world’s largest gender clinic—found a total of only four completed suicides across 11 years’ worth of patient data, reflecting an estimated cumulative 30,000 patient-years spent by patients under the clinic’s care or on its waiting list. This corresponded to an annual suicide rate of 0.013%. The proportion of individual patients who died by suicide was 0.03%, which is orders of magnitude smaller than trans-identifying adolescents who self-report suicidal behavior or thoughts on surveys. (Biggs 2022b.)

195. Thus, only a minute fraction of trans-identifying adolescents who report thoughts or conduct considered to represent “suicidality” commit suicide. I agree with Dr. Zucker that the assertion by, for example, Karasic and Ehrensaft (2015) that completed suicides among transgender youth are “alarmingly high” “has no formal and systematic empirical basis.” (Zucker 2019 at 3.)

196. Professor Biggs of Oxford, author of the study of incidence of suicide among Tavistock clinic patients, rightly cautions that it is “irresponsible to exaggerate the prevalence of suicide.” (Biggs 2022b at 4.) It is my opinion that telling

parents—or even allowing them to believe from their internet reading—that they face a choice between “a live son or a dead daughter” is both factually wrong and unethical. Informed consent requires clinicians to ensure that their patients understand the truth. Those clinicians who claim a high risk of suicide in adolescence confuse suicidal ideation with suicide or with a profoundly heightened risk of suicide. Suicidal ideation sometimes can be a response to have an out mechanism if things get much worse—that is, the creation of self-control, being in charge. Such discernments require an experienced clinician.

B. Transition of any sort has not been shown to reduce levels of suicide.

197. Every suicide is a tragedy, and steps that reduce suicide should be adopted. Suicidality (that is, suicidal thoughts or behaviors, rather than suicide) is common among transgender adolescents and young adults before, during, and after social and medical transition. If a medical or mental health professional believes that an individual he or she is diagnosing or treating for gender dysphoria presents a suicide risk, in my view it is unethical for that professional merely to proceed with treatment for gender dysphoria and hope that “solves the problem.” Rather, that professional has an obligation to provide or refer the patient for evidence-based therapies for addressing depression and suicidal thoughts that are well-known to the profession. (Levine 2016 at 242.)

198. This is all the more true because there is in fact no evidence that social and/or medical transition reduces the risk or incidence of actual suicide. As there are no long-term comparative studies of gender dysphoric adolescents with suicidal ideation, per se, let alone a comparative study of those who were given hormones and those who did not take hormones, there is no scientific basis for declaring affirmative care as reducing suicidal risk. In his analysis of those who were patients of or on the waiting list of the Tavistock clinic, Professor Biggs found that the suicide rate was

not higher among those on the clinic's waiting list (and thus as-yet untreated), than for those who were patients under care. (Biggs 2022b.) And as corrected, Bränström and Pachankis similarly acknowledge that their review of records of GD patients “demonstrated no advantage of surgery in relation to . . . hospitalizations following suicide attempts.” (I assume for this purpose that attempts that result in hospitalization are judged to be so serious as to predict a high rate of future suicide if not successfully addressed.)¹³ Long-term life in a transgender identity, however, correlates with elevated rates of completed suicide. The European death rates studies quoted above are based on national registry data. Each showed elevated rates of suicide compared to the countries' non-transgendered population groups.

199. As with mental health generally, the patient, parent, or clinician fearing the risk of suicide must consider not just the next month or year, but a life course perspective.

200. There are four long-term studies that analyze completed suicide among those living in transgender identities into adulthood that were published before 2022. I have discussed above two 2023 studies from the UK and Denmark. (See paragraph 185.) The results of the older studies vary significantly but are uniformly highly negative. Dhejne reported a long-term follow-up study of subjects after sex reassignment surgery. Across the thirty-year study, subjects who had undergone SRS committed suicide at 19.1 times the expected rate compared to general population controls matched by age and both sexes. MtF subjects committed suicide at 13.9 times the expected rate, and FtM subjects committed suicide at 40.0 times the expected

¹³ Turban et al. (2020) has been described in press reports as demonstrating that administration of puberty suppressing hormones to transgender adolescents reduces suicide or suicidal ideation. The paper itself does not make that claim, nor permit that conclusion.

rate. (Dhejne et al. 2011 Supplemental Table S1. *See also* McNeil 2017 (systematic review noting confirmed suicide rates remained elevated after transition).)

201. Asscheman, also writing in 2011, reported results of a long-term follow-up of all transsexual subjects of the Netherlands' leading gender medicine clinic who started cross-sex hormones before July 1, 1997, a total of 1331 patients. Due to the Dutch system of medical and death records, extensive follow-up was achieved. Median follow-up period was 18.5 years. The mortality rate among MtF patients was 51% higher than among the age-matched general population; the rate of completed suicide among MtF patients was six times that of the age-matched general population. (Asscheman et al. 2011.)

202. Importantly, Asscheman et al. found that "No suicides occurred within the first 2 years of hormone treatment, while there were six suicides after 2–5 years, seven after 5–10 years, and four after more than 10 years of CSH treatment at a mean age of 41.5 years." (Asscheman et al. 2011 at 637–38.) This suggests that studies that follow patients for only a year or two after treatment are insufficient. Asscheman et al.'s data suggest that such short-term follow-up is engaging only with an initial period of optimism, and it will simply miss the feelings of disillusionment and the increase in completed suicide that follows in later years.

203. A retrospective, long-term study published in 2020 of a very large cohort (8263) of patients referred to the Amsterdam University gender clinic between 1972 and 2017 found that the annual rate of completed suicides among the transgender subjects was "three to four times higher than the general Dutch population." "[T]he incidence of observed suicide deaths was almost equally distributed over the different stages of treatment." The authors concluded that "vulnerability for suicide occurs similarly in the different stages of transition." (Wiepjes et al. 2020.) In other words, neither social nor medical transition reduced the rate of suicide. This study

demonstrates that the risk of ultimate suicide is not reduced by hormonal or surgical treatment.

204. Similar to Asscheman et al., Wiepjes et al. found that the median time between start of hormones and suicide (when suicide occurred) was 6.1 years for natal males, and 6.9 years for natal females. Again, short- or even medium-term studies will miss this suicide phenomenon.

205. A 2021 study analyzed the case histories of a cohort of 175 gender dysphoria patients treated at one of the seven UK adult gender clinics who were “discharged” (discontinued as patients) within a selected one-year period. The authors reported the rather shocking result that 7.7% (3/39) of natal males who were diagnosed and admitted for treatment, and who were between 17 and 24 years old, were “discharged” because they committed suicide during treatment. (Hall et al. 2021, Table 2.)

206. And researchers conducting an ongoing study this year reported a very high rate of completed suicides by adolescents soon after (i.e., the first two years) medical transition. (Chen et al. 2023 at 245.)

207. None of these studies demonstrates that the hormonal or surgical intervention caused suicide. That is possible, but as we have seen, the population that identifies as transgender suffers from a high incidence of comorbidities that correlate with suicide. What these studies demonstrate—at the least—is that this remains a troubled population in need of extensive and careful psychological care that they generally do not receive, and that neither social, hormonal nor surgical transition and “affirmation” resolve their underlying problems and put them on the path to a stable and healthy life.

208. This conclusion is also apparent from a systematic review undertaken by Christensen et al. that sought to examine interventions for suicide prevention in transgender children and adolescents. The review identified seventeen studies, eight

of which pertained specifically to medicalized transition, and observed that “the overall quality of evidence is low, and the risk of bias is high.” (Christensen et al. 2023 at 9.) The authors noted the flaws contributing to the high risk of bias within the identified studies included “self-reporting, lack of controls for comparability, small sample sizes, and lack of generalizability.” (*Id.* at 7.)

209. Christensen et al. stated in conclusion that “[i]t is yet largely unproven what the effect of such interventions may be on rates of suicidal ideation and attempt—let alone completion—amongst transgender and gender-diverse youth.” They further noted that no randomized controlled trials were found and pressed the “urgent need” for high-quality studies in this area. (*Id.* at 9.)

210. In sum, claims that affirmation reduces the risk of suicide for children and adolescents are not based on science. Affirmation does not guarantee prevention of suicide during adolescent or young adult years, and it may increase the risk of suicide over the life cycle. It is therefore not ethical or reasonable to suggest to parents of minors that without social and/or medical transition, their child is at great risk of suicide.

X. HORMONAL INTERVENTIONS ARE EXPERIMENTAL PROCEDURES THAT HAVE NOT BEEN PROVEN SAFE.

211. A number of voices in the field assert that puberty blockers act merely as a “pause” in the process of puberty-driven maturation, suggesting that this hormonal intervention has been proven to be fully reversible. This is also an unproven belief.

212. On the contrary, no studies have been done that meaningfully demonstrate that either puberty blockers or cross-sex hormones, as prescribed for gender dysphoria, are safe in other than the short run. No studies have attempted to determine whether the effects of puberty blockers, as currently being prescribed for gender dysphoria, are fully reversible. There are only pronouncements. In fact, there

are substantial reasons for concern that these hormonal interventions are not safe. Multiple researchers have expressed concern that the full range of possible harms have not even been correctly conceptualized.

213. As I explained in Section IV.F, use of hormonal interventions for the purpose of gender affirmation in adolescents can fairly be described as experimental, unproven, and dangerously uncertain. Because, as I have explained in Section VII, recent evidence demonstrates that pre-pubertal social transition almost always leads to progression on to puberty blockers which in turn almost always leads to the use of cross-sex hormones, physicians bear the ethical responsibility for a thorough informed consent process for parents and patients that includes this fact and its full implications. Informed consent does not mean sharing with the parents and patients what the doctor believes: it means sharing what is known and what is not known about the intervention. So much of what doctors believe is based on mere trust in what they have been taught. Neither they themselves nor their teachers may be aware of the scientific foundation and scientific limitations of what they are recommending.

A. Use of puberty blockers has not been shown to be safe or reversible for gender dysphoria.

214. As I noted above, the recent very thorough literature review performed for the British NHS concluded that *all* available clinical evidence relating to “safety outcomes” from administration of puberty blockers for gender dysphoria is of “very low certainty.” (NICE 2020b at 6.)

215. In its 2017 Guidelines, the Endocrine Society cautioned that “in the future we need more rigorous evaluations of the effectiveness and safety of endocrine and surgical protocols” including “careful assessment of . . . the effects of prolonged delay of puberty in adolescents on bone health, gonadal function, and the brain (including effects on cognitive, emotional, social, and sexual development).” (Hembree

et al. 2017 at 3874.) No such “careful” or “rigorous” evaluation of these very serious safety questions has yet been done.

216. Some advocates assert that puberty blockers are “safe” because they have been approved by the Food and Drug Administration (FDA) for use to treat precocious puberty—a rare condition in which the puberty process may start at eight or younger. No such conclusion can be drawn. As the “label” for Lupron (one of the most widely prescribed puberty blockers) explains, the FDA approved the drug only until the “age was appropriate for entry into puberty.” The study provides no information at all as to the safety or reversibility of instead blocking healthy, normally timed puberty’s beginning, and throughout the years that body-wide continuing changes normally occur. Given the physical, social, and psychological dangers to the child with precocious puberty, drugs like Lupron are effective in returning the child to a puerile state like their peers without a high incidence of significant side effects—that is, they are “safe” to reverse the condition. But use of drugs to suppress normal puberty has multiple organ system effects whose long-term consequences have not been investigated.

217. **Fertility:** The Endocrine Society Guidelines rightly say that research is needed into the effect of puberty blockade on “gonadal function” and “sexual development.” The core purpose and function of puberty blockers is to prevent the maturation of the ovaries or testes, the sources of female hormones and male hormones when stimulated by the pituitary gland. From this predictable process fertility is accomplished within a few years. Despite widespread assertions that puberty blockers are “fully reversible,” there has been no study published on the critical question of whether patients ever develop normal levels of fertility if puberty blockers are terminated after a prolonged delay of puberty. The 2017 Endocrine Society Guidelines are correct that that are no data on achievement of fertility

“following prolonged gonadotropin suppression” (that is, puberty blockade). (Hembree et al. 2017 at 3880.)

218. **Bone strength:** Multiple studies have documented adverse effects from puberty blockers on bone density. (Klink et al. 2015; Vlot et al. 2016; Joseph et al. 2019.) The most recent found that after two years on puberty blockers, the bone density measurements for a significant minority of the children had declined to clinically concerning levels. Density in the spines of some subjects fell to a level found in only 0.13% of the population. (Biggs 2021.) Some other studies have found less-concerning effects on bone density. While the available evidence remains limited and conflicting, it is not possible to conclude that the treatment is “safe.”

219. **Brain development:** Important neurological growth and development in the brain occurs across puberty. (See Shirazi 2020.) The anatomic and functional effect on brain development of blocking the natural puberty process has not been well studied. A prominent Australian clinical team expressed concern that “no data were (or are) available on whether delaying the exposure of the brain to a sex steroid affects psychosexual, cognitive, emotional, or other neuropsychological maturation.” (Kozłowska et al. 2021 at 89.) Others have echoed this concern. (Cass 2022 at 38–39; Chen et al. 2020 at 249; Hembree et al. 2017 at 3874.) In my opinion, given the observed correlation between puberty and brain development, the default hypothesis must be that there would be a negative impact. For the purpose of protecting patients all over the world, the burden of proof should be on advocates to first demonstrate to a reasonable degree of certainty that brain structure and its measurable cognitive and affect processing are not negatively affected. This recalls the ethical principle: Above All Do No Harm.

220. The Endocrine Society Guidelines acknowledge as much, stating that side effects of pubertal suppression “may include . . . unknown effects on brain development,” that “we need more rigorous evaluations of . . . the effects of prolonged

delay of puberty in adolescents on . . . the brain (including effects on cognitive, emotional, social, and sexual development),” and stating that “animal data suggests there may be an effect of GnRH analogs [puberty blockers] on cognitive function.” (Hembree et al. 2017 at 3874, 3882–83.) Given this concern, one can only wonder why this relevant question has not been scientifically investigated in a large group of natal males and females.

221. There has been a single longitudinal study of one natal male child, assessed before, and again 20 months after, puberty suppression was commenced. It reported a reduction in the patient’s “global IQ,” measured an anomalous absence of certain structural brain development expected during normal male puberty and hypothesized that “a plausible explanation for the G[lobal] IQ decrease should consider a disruption of the synchronic [i.e., appropriately timed] development of brain areas by pubertal suppression.” (Schneider et al. 2017 at 7.) This should cause parents’ and practitioners’ serious concern.

222. Whether any impairment of brain development is “reversed” upon later termination of puberty blockade has, to my knowledge, not been studied at all. As a result, assertions by medical or mental health professionals that puberty blockade is “fully reversible” are unjustified and based on hope rather than science. A recent study from Dr. Sallie Baxendale, a professor of clinical neuropsychology at UCL in London articulated these concerns, noting that “is no evidence to date to support the oft cited assertion that the effects of puberty blockers are fully reversible.” (Baxendale 2024 at 9.) In fact, Dr. Baxendale indicated that given the significant effect of hormones on the adolescent brain during puberty, completely reversible neuropsychological effects “would not be predicted given our current understanding of the ‘windows of opportunity’ model of neurodevelopment.” (Baxendale 2024 at 3.) Noting that “[c]ritical questions remain unanswered regarding the nature, extent and permanence of any arrested development of cognitive function that may be associated

with pharmacological blocking of puberty” Dr. Baxendale urgently called for longitudinal studies to assess the educational and vocational trajectories of people undergoing these such treatments. (Baxendale 2024 at 3.)

223. Without additional case studies—or preferably statistically significant clinical studies—two questions remain unanswered: Are there brain anatomic or functional impairments from puberty blockers? And are the documented changes reversed over time when puberty blockers are stopped? With these questions unanswered, it is impossible to assert with certainty that the effects of this class of medications are “fully reversible.” Such an assertion is another example of ideas based on beliefs rather than on documentation, on hope not science.

224. **Psycho-social harm:** Puberty is a time of stress, anxiety, bodily discomfort during physical development, and identity formation for all humans. No careful study has been done of the long-term impact on the young person’s coping skills, interpersonal comfort, and intimate relationships from remaining puerile for, e.g., two to five years while one’s peers are undergoing pubertal transformations, and of then undergoing an artificial puberty at an older age. However, pediatricians and mental health professionals hear of distress, concern, and social awkwardness in those who naturally have a delayed onset of puberty. In my opinion, individuals in whom puberty is delayed multiple years are likely to suffer at least subtle negative psychosocial and self-confidence effects as they stand on the sidelines witnessing their peers developing the social relationships (and attendant painful social learning experiences) that come with adolescence. (Levine 2018a at 9.) Social anxiety and social avoidance are common findings in the evaluation of trans-identified children and teens. Are we expected to believe that creating years of being further different than their peers has no lasting internal consequences? Do we ignore Adolescent Psychiatry’s knowledge of the importance of peer groups among adolescents?

225. We simply do not know what all the psychological impacts of *not* grappling with puberty at the ordinary time may be, because it has not been studied. And we have no information as to whether that impact is “fully reversible.” We should at least consider that the normal pubertal ushering of an adolescent into the world of sexual attraction, romantic preoccupations, sexual desires, and forays into interpersonal intimate relationships can be a positive experience for an untreated trans identified child. In contrast, puberty is presented solely as a negative process to be avoided by puberty blockers. In psychiatry we have the concept that conflict is inevitable, and its resolution strengthens a person’s capacities to deal with the future. This applies to individuals of any age.

226. In addition, since the overwhelming proportion of children who begin puberty blockers continue on to cross-sex hormones, it appears that there is an important element of “psychological irreversibility” in play. The question of to what extent the physical and developmental impacts of puberty blockers might be reversible is an academic one, if psycho-social realities mean that very few patients will ever be able to make that choice once they have started down the road of social transition and puberty blockers.

B. Use of cross-sex hormones in adolescents for gender dysphoria has not been shown to be medically safe except in the short term.

227. As with puberty blockers, all evidence concerning the safety of extended use of cross-sex hormones is of “very low quality.” The U.K. NICE evidence review cautioned that “the safety profiles” of cross-sex hormone treatments are “largely unknown,” and that several of the limited studies that do exist reported high numbers of subjects “lost to follow-up,” without explanation—a worrying indicator. (NICE 2020b.)

228. The 2020 Cochrane Review reported that: “We found insufficient evidence to determine the . . . safety of hormonal treatment approaches for

transgender women in transition.” (Haupt et al. 2020 at 4.) Even the Endocrine Society tagged all its recommendations for the administration of cross-sex hormones as based on “low quality evidence.” (Hembree et al. 2017 at 3889.)

229. The low quality of evidence to support use of puberty blockers and cross-sex hormones in the transition of minors cannot be dismissed simply by citing other medical interventions such as cleft or cranial-facial surgery that are commonly used without supporting evidence. In other areas lacking in high quality evidence, the patient’s biology, eating habits, or traumas have generated a problem to be ameliorated. In gender dysphoria, other treatment approaches are possible that do not carry the significant risks of harm posed by medical and ultimate surgical interventions.

230. **Sterilization:** It is undisputed, however, that harm to the gonads is an expected effect, to the extent that it must be assumed that cross-sex hormones will sterilize the patient. Thus, the Endocrine Society 2017 Guidelines caution that “[p]rolonged exposure of the testes to estrogen has been associated with testicular damage,” that “[r]estoration of spermatogenesis after prolonged estrogen treatment has not been studied,” and that “[i]n biological females, the effect of prolonged treatment with exogenous testosterone upon ovarian function is uncertain.” (Hembree et al. 2017 at 3880.)¹⁴

231. The Guidelines go on to recommend that the practitioner counsel the patient about the (problematic and uncertain) options available to collect and preserve fertile sperm or ova before beginning cross-sex hormones. The life-long negative emotional impact of infertility on both men and women has been well

¹⁴ See also Guss et al. 2015 at 4 (“a side effect [of cross-sex hormones] may be infertility”) and at 5 (“cross-sex hormones . . . may have irreversible effects”); Tishelman et al. 2015 at 8 (Cross-sex hormones are “irreversible interventions” with “significant ramifications for fertility”)

studied. While this impact has not been studied specifically within the transgender population, the opportunity to be a parent is likely a human, emotional need, and so should be considered an important risk factor when considering gender transition for any patient. What has been documented is the low rate of acceptance of banking sperm or ova in this population, which is an expensive ongoing process. Few experienced clinicians put much weight on a 13-year-old's declaration that "I don't want to be a parent anyway!"

232. **Sexual response:** Puberty blockers prevent maturation of the sexual organs and response. Some, and perhaps many, transgender individuals who did not go through puberty consistent with their sex and are then put on cross-sex hormones face significantly diminished sexual response as they enter adulthood and are unable ever to experience orgasm. In the case of males, the cross-sex administration of estrogen limits penile genital growth and function. In the case of females, prolonged exposure to exogenous testosterone leads to vaginal atrophy and creates pain during penetration. At the same time, testosterone increases sexual drive. Much has been written about the negative psychological and relational consequences of anorgasmia among non-transgender individuals that is ultimately applicable to the transgendered. (Levine 2018a, at 6.)

233. **Cardiovascular harm:** Several researchers have reported that cross-sex hormones increase the occurrence of various types of cardiovascular disease, including strokes, blood clots, and other acute cardiovascular events. (Getahun et al. 2018; Guss et al. 2015; Asscheman et al. 2011.) A recent study indicated that transgender individuals who had been put on cross-sex hormones were at a 40% greater risk of experiencing cardiovascular disease. (van Zijverden et al. 2024.) With that said, I agree with the conclusion of the Endocrine Society committee (like that of the NICE Evidence Review) that: "A systematic review of the literature found that data were insufficient (due to very low-quality evidence) to allow a meaningful

assessment of patient-important outcomes, such as death, stroke, myocardial infarction, or venous thromboembolism in transgender males. Future research is needed to ascertain the potential harm of hormonal therapies.” (Hembree et al. 2017 at 3891.) Future research questions concerning long-term harms need to be far more precisely defined. The question of whether cross-sex hormones are safe for adolescents and young adults cannot be answered by analogies to hormone replacement therapy in menopausal women (which is not a cross-sex usage). Medicine has answered safety questions for menopausal women in terms of cancer and cardiovascular safety: at what dose, for what duration, and at what age range. The science of endocrine treatment of gender dysphoric youth is being bypassed by short-term clinical impressions of safety even though physicians know that cardiovascular and cancer processes often develop over many years.

234. Further, in contrast to administration for menopausal women, hormones begun in adolescence are likely to be administered for four to six decades. The published evidence of adverse impact, coupled with the lack of data sufficient to reach a firm conclusion, make it irresponsible to assert that cross-sex hormones “are safe.”

235. **Harm to family and friendship relationships:** As a psychiatrist, I recognize that mental health is a critical part of health generally, and that relationships cannot be separated from and profoundly impact mental health. Gender transition routinely leads to isolation from at least a significant portion of one’s family in adulthood.

236. **Sexual-romantic harms associated with transition:** After adolescence, transgender individuals find the pool of individuals willing to develop a romantic and intimate relationship with them to be greatly diminished. When a trans-identifying person who passes well reveals his or her sex, many potential mates lose interest. When a trans-identifying person does not pass well, options are likely

further diminished. But regardless of a person's appearance, these adults soon learn that many of their dates are looking for exotic sexual experiences rather than genuinely loving relationships. (Levine 2017 at 5, 13; Levine 2013 at 40; Anzani et al. 2021.)

C. The timing of harms.

237. The multi-year delay between start of hormones and the spike in completed suicide reported by both Asscheman et al. 2011 and Wiepjes et al. 2020, warns us that the safety and beneficence of these treatments cannot be judged based on short-term studies, or studies that do not continue into adulthood. Similarly, several of the harms that I discuss above would not be expected to manifest until the patients reaches at least middle age. For example, stroke or other serious cardiovascular event is a complication that is unlikely to manifest during teen years even if its likelihood over the patient's lifetime has been materially increased via obesity, lipid abnormalities, and smoking. Regret over sterilization or over an inability to form a stable romantic relationship may occur sooner. Psychological challenges of being a trans adult may become manifest after the medical profession is only doing routine follow up care—or, in many cases, has lost contact with the patient altogether. Because few, if any, clinics in this country are conducting systematic long-term follow-up with their child and adolescent patients, the doctors who counsel, prescribe, or perform hormonal and surgical therapies are unlikely ever to become aware of the later negative life impacts, however severe. These concerns are compounded by the findings in the recent “detransitioner” research that 76% did not inform their clinicians of their detransition. (Littman 2021.)

238. The possibility that steps along the transition and affirmation pathway, while lessening the pain of gender dysphoria in the short term, could lead to additional sources of crippling emotional and psychological pain, are too often not considered by advocates of social transition, and not considered at all by the trans-

identifying child or adolescent. (Levine 2016 at 243.) Clinicians must distinguish the apparent short-term safety of hormones from likely or possible long-term consequences, and help the patient and parents understand these implications as well. The young patient may feel, “I don’t care if I die young, just as long I get to live as a woman.” The mature adult may take a different view. Hopefully, so will the child’s physician.

239. Individual patients often pin excessive hope in transition, believing that transition will solve what are in fact ordinary social stresses associated with maturation, or mental health co-morbidities. In this way, transition can prevent them from mastering personal challenges at the appropriate time or directly addressing conditions that require treatment. When the hoped-for “vanishing” of other mental health or social difficulties does not occur, disappointment, distress, and depression may ensue. It is noteworthy that half of the respondents to the larger “detransitioner” survey reported that their transition had not helped the gender dysphoria, and 70% had concluded that their gender dysphoria was related to other issues. (Vandenbussche 2021.) Without the clinical experience of monitoring the psychosocial outcomes of these young patients as they age into adulthood, many such professionals experience no challenge to their affirmative beliefs. But medical and mental health professionals who deliver trans affirmative care for those with previous and co-existing mental health problems have an ethical obligation to inform themselves, and to inform patients and parents, that these dramatic treatments are not a panacea.

240. Whether we consider physical or mental health, science does not permit us to say that either puberty blockers or cross-sex hormones are “safe,” and the data concerning the mental health of patients before, during, and after such treatments strongly contradict the assertion that gender dysphoria is “easily managed.”

XI. OBSERVATIONS ON THE REPORTS OF DOCTORS ABBIE GOLDBERG AND AMY TISHELMAN.

A. Dr. Abbie E. Goldberg, Ph.D.

241. The bulk of Dr. Goldberg’s report is focused on “LGBTQ+ parents” which Dr. Goldberg does not define, and which presumably encompasses a wide group of sexual minority-identified parents to a wide variety of children, one sub-set of which would be parents to a currently trans-identified minor.

242. At page 6 of her report, Dr. Goldberg indicates that such parents would wish to, and ideally access an “LGBTQ-affirming” school—a term that again she does not define. The strong implication from Dr. Goldberg is that such a school would adopt an “affirmative” approach to a trans-identified minor for purposes of restroom usage, pronouns, dress codes, and student housing during school expeditions and field trips. One cannot be certain about her generalization.

243. However, given that the minor’s identity is likely to be temporary (*see* Section V and VI above), and given many known social, psychological, and medical risks inherent in adopting an affirmative response to the affected minor (*see* Sections VII–X above), it cannot be assumed that parents would seek to adopt an affirmative response, particularly as the scientific basis for affirmative care is uncertain (*see* Sections IV and VIII above).

244. Parents of a currently trans-identified child may wish to pursue a “watchful waiting” approach or a psychotherapeutic response that would seek to alleviate distress by identifying and addressing causes of distress—all of which avoid the possible harms implicated by an “affirmative” approach. *See* Section III.E above. I have encountered many parents who have sought a more cautious approach during my years of practice. These alternative responses are facilitated by the approach taken by Darren Patterson Christian Academy.

B. Dr. Amy Tishelman, Ph.D.

245. In her use of the terms “transgender youth” and “transgender children,” Dr. Tishelman indicates that a minor’s identity is a fixed and stable biological entity that must be treated as though the minor has always been and will always be a trans person. But this assumption disregards the scientific literature demonstrating the instability of transgender identities and that desistance is the most likely outcome for a minor experiencing experience gender dysphoria or incongruence. *See* Section V and VI above.

246. The assertion is even more tenuous in the context of a preschool population with an age range of 2.5 to 5 years old¹⁵ in light of the recognition of many in the scientific community, including the Endocrine Society, that the persistence of gender dysphoria or incongruence can only be reliably assessed after the first signs of puberty. *See* Section V.A above.

247. Dr. Tishelman’s discussion of an “affirming” school environment and social transition is notably void of any discussion of the potential risks and harms facing minors who are subjected to an affirmative approach and is entirely focused on short-term ease and happiness for the minor as opposed to taking the “life course” perspective into account. *See* Sections IV, VII–X above. It also fails to mention alternative approaches to a trans-identified minor that avoid the possible harms implicated by an “affirmative” approach. *See* Section III.E above.

248. Relatedly, a significant proportion of minors who present with a transgender identity suffer from identifiable psychiatric co-morbidities, which can include developmental difficulties, autism, and ADHD. *See* Section III.C, VIII.C. It is important that these co-morbidities be identified, and that appropriate psychotherapeutic help be obtained for the affected minor. Dr. Tishelman’s discussion of behavioral issues affecting very young minors in her report centers on the identity

¹⁵ According to the Verified Complaint, ¶ 42.

issues presented and glosses over what may ultimately be complex psychiatric issues affecting those minors.

249. And Dr. Tishelman makes sweeping, generalized statements that rely on studies undertaken on older populations to support many of the assertions made in her report that are implied to pertain to the 2.5 to 5 years old age range in question. A clear example of this is on page 8 of her report: “It is well established that gender diverse youth face additional stressors or adversities compared to cisgender peers . . . particular to the experience and expression of gender diversity, and these factors (such as deliberate use of incorrect names or pronouns) can be detrimental in a school setting.” And on page 11: “In general, available literature supports the notion that transgender youth are at high risk for mental health challenges due to the experience of adversities related to their gender diverse expressions and identities.” It is a basic scientific principle that data from one population cannot be assumed to be applicable to others, particularly where there are notable cognitive and developmental differences between the populations.

250. Finally, in her discussion on social transition and its effect on mental health outcomes (pages 12–13 of her report) Dr. Tishelman fails to mention Morandini et al. 2023—the recent and more methodologically rigorous study examining data from the Tavistock clinic in London which found that social transition was not associated with an improvement in mental health. More significantly however, Dr. Tishelman fails to mention that no studies show that affirmation of transgender identity in minors reduces suicide or suicidal ideation, or improves long-term outcomes, as compared to other therapeutic approaches. *See* Sections VIII and IX.

Dated: May 30, 2024 Stephen B. Levine
Dr. Stephen B. Levine, M.D.

BIBLIOGRAPHY

- Abbruzzese E., Levine SB. & Mason J.W. (2023). *The Myth of "Reliable Research" in Pediatric Gender Medicine: A Critical Evaluation of the Dutch Studies-and Research That Has Followed*, 49(6) JOURNAL OF SEX MARITAL THERAPY, 673–99. doi:10.1080/0092623X.2022.2150346.
- Adelson, S. & American Academy of Child & Adolescent Psychiatry. (2012). *Practice Parameter on Gay, Lesbian, or Bisexual Sexual Orientation, Gender Nonconformity, and Gender Discordance in Children and Adolescents*, 51(9) JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY, 957. doi:10.1016/j.jaac.2012.07.004.
- Allarakha, S. (2022). *What Are the 72 Other Genders?* MEDICINENET. https://www.medicinenet.com/what_are_the_72_other_genders/article.htm.
- Allen, L. R. et al. (2019). *Well-being and Suicidality Among Transgender Youth After Gender-affirming Hormones*, 7(3) CLINICAL PRACTICE IN PEDIATRIC PSYCHOLOGY, 302–11. doi.org/10.1037/cpp0000288.
- American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, DSM-3 (3rd ed. 1980).
- American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, DSM-5 (5th ed. 2013). doi.org/10.1176/appi.books.9780890425596.
- American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, DSM-5-TR (5th ed., text revised 2022). doi.org/10.1176/appi.books.9780890425787.
- American Psychological Association (APA). (2015). *Guidelines for Psychological Practice with Transgender & Gender Nonconforming People*, 70(9) AMERICAN PSYCHOLOGIST, 832–64. doi.org/10.1037/a0039906.
- Anderson, E. (2022). *Opinion: When It Comes to Trans Youth, We're in Danger of Losing Our Way*, THE SAN FRANCISCO EXAMINER. (Accessed July 28, 2023 https://www.sfexaminer.com/archives/opinion-when-it-comes-to-trans-youth-we-re-in-danger-of-losing-our-way/article_833f674f-3d88-5edf-900c-7142ef691f1a.html).

- Anzani, A. et al. (2021). “*Being Talked to Like I Was a Sex Toy, Like Being Transgender Was Simply for the Enjoyment of Someone Else*”: *Fetishization and Sexualization of Transgender and Nonbinary Individuals*, 50(3) ARCHIVES OF SEXUAL BEHAVIOR, 897–911.
- Asscheman, H. et al. (2011). *A Long-Term Follow-up Study of Mortality in Transsexuals Receiving Treatment with Cross-Sex Hormones*, 164(4) EUROPEAN JOURNAL OF ENDOCRINOLOGY, 635–42.
- Baker, K.E. et al. (2021). *Hormone Therapy, Mental Health, and Quality of Life Among Transgender People: A Systematic Review*, 5(4) JOURNAL OF ENDOCRINE SOCIETY, 1–16. doi:10.1210/edso/bvab011.
- Balshem, H. et al. (2011). *GRADE Guidelines: 3. Rating the Quality of Evidence*, 64(4) JOURNAL OF CLINICAL EPIDEMIOLOGY, 401–06.
- Baxendale, S. (2024). *The impact of suppressing puberty on neuropsychological function: A review*. ACTA PEDIATRICA, 113, 1156–1167.
- Becerra-Culqui, T. et. al. (2018). *Mental Health of Transgender and Gender Nonconforming Youth Compared with Their Peers*, 141(5) PEDIATRICS, e20173845.
- Bhargava, A. et al. (2021). *Considering Sex as a Biological Variable in Basic and Clinical Studies: An Endocrine Society Scientific Statement*, 42(3) ENDOCRINE REVIEWS, 219–58.
- Biggs, M. (2021). *Revisiting the Effect of GnRH Analogue Treatment on Bone Mineral Density in Young Adolescents with Gender Dysphoria*, 34(7) JOURNAL OF PEDIATRIC ENDOCRINOLOGY AND METABOLISM, 937–39.
- Biggs, M. (2022a). *Comment on Turban et al., Estrogen is Associated with Greater Suicidality among Transgender Males, and Puberty Suppression is not Associated with Better Mental Health Outcomes for Either Sex*, Journal Contribution.
<https://journals.plos.org/plosone/article/comment?id=10.1371/annotation/dcc6a58e-592a-49d4-9b65-ff65df2aa8f6>.
- Biggs, M. (2022b). *Suicide by Clinic-Referred Transgender Adolescents in the United Kingdom*, 51 ARCHIVES OF SEXUAL BEHAVIOR, 685–90.
doi.org/10.1007/s10508-022-02287-7.

- Bisno, D.I. et al. (2023). *A National Survey of United States-Based Endocrinologists Who Prescribe Gender-Affirming Hormone Therapy*, 29(6) ENDOCRINE PRACTICE, 465–70. doi.org/10.1016/j.eprac.2023.03.003.
- Blakemore, S., Burnett, S. & Dahl, R. (2010). *The Role of Puberty in the Developing Adolescent Brain*, 31(6) HUMAN BRAIN MAPPING, 926–33. doi:10.1002/hbm.21052.
- Block J. (Clinical research ed., 2023). *Gender Dysphoria in Young People Is Rising-and So Is Professional Disagreement*, 380 BMJ, 382. doi.org/10.1136/bmj.p382.
- Boyd, I., Hackett, T. & Bewley, S. (2022). *Care of Transgender Patients: A General Practice Quality Improvement Approach*, 10(1) HEALTHCARE, 121. doi:10.3390/healthcare10010121.
- Bränström, R. & Pachankis, J. E. (2020). *Reduction in Mental Health Treatment Utilization Among Transgender Individuals After Gender-Affirming Surgeries: A Total Population Study*, 177(8) AMERICAN JOURNAL OF PSYCHIATRY, 727–34. doi.org/10.1176/appi.ajp.2019.19010080.
- Bränström, R., & Pachankis, J. E. (2020). *Correction to Bränström & Pachankis*, 177(8) AMERICAN JOURNAL OF PSYCHIATRY, 734–34. doi.org/10.1176/appi.ajp.2020.1778correction.
- Brignardello-Petersen, R. & Wiercioch, W. (2022). *Effects of Gender Affirming Therapies in People With Gender Dysphoria: Evaluation of The Best Available Evidence*. https://ahca.myflorida.com/content/download/4864/file/AHCA_GAPMS_June_2022_Attachment_C.pdf.
- Brik, T. et al. (2020). *Trajectories of Adolescents Treated with Gonadotropin-Releasing Hormone Analogues for Gender Dysphoria*, 49 ARCHIVES OF SEXUAL BEHAVIOR, 2611–18. doi.org/10.1007/s10508-020-01660-8.
- Canetto, S. S. et al. (2021). *Suicidal as Normal - A Lesbian, Gay, and Bisexual Youth Script?*. 42(4) CRISIS, 292–300. doi.org/10.1027/0227-5910/a000730.
- Cantor, J. (2019). *Transgender and Gender Diverse Children and Adolescents: Fact-Checking of AAP Policy*, 46(4) JOURNAL OF SEX & MARITAL THERAPY, 307–13. doi:10.1080/0092623X.2019.1698481.
- Carmichael, P. et al. (2021). *Short-Term Outcomes of Pubertal Suppression in a Selected Cohort of 12- To 15-Year-Old Young People with Persistent Gender Dysphoria in The UK*, 16(2) PLOS ONE, e0243894.

- Cass, H. (February 2022). *The Cass Review: Independent Review of Gender Identity Services for Children and Young People: Interim Report*.
- Cass, H. (April 2024). *The Cass Review: Independent Review of Gender Identity Services for Children and Young People: Final Report*.
- Chen, D. et al. (2020). *Consensus Parameter: Research Methodologies to Evaluate Neurodevelopmental Effects of Pubertal Suppression in Transgender Youth*, 5(4) TRANSGENDER HEALTH, 246–57. doi:10.1089/trgh.2020.0006.
- Chen D. et al. (2023). *Psychosocial Functioning in Transgender Youth after 2 Years of Hormones*. 388(3) NEW ENGLAND JOURNAL OF MEDICINE, 240–50. doi:10.1056/NEJMoa2206297.
- Christensen, J. A., Oh, J., Linder, K., Imhof, R. L., Croarkin, P. E., Bostwick, J. M., & McKean, J. S. (2023). *Systematic review of interventions to reduce suicide risk in transgender and gender diverse youth*. CHILD PSYCHIATRY & HUMAN DEVELOPMENT. doi: 10.1007/s10578-023-01541-w
- Clayton A. (2023). *Gender-Affirming Treatment of Gender Dysphoria in Youth: A Perfect Storm Environment for the Placebo Effect-The Implications for Research and Clinical Practice*, 52(2) ARCHIVES OF SEXUAL BEHAVIOR, 483–94. doi:10.1007/s10508-022-02472-8.
- Cohen, A. et al. (2023). *Shifts in Gender-related Medical Requests by Transgender and Gender-diverse Adolescents*, 72(3) JOURNAL OF ADOLESCENT HEALTH, 428–36. doi:10.1016/j.jadohealth.2022.10.020.
- Cohen-Kettenis, P. & Kuiper, B. (1984). *Transsexuality and Psychotherapy*, 10 TIJDSCHRIFT VOOR PSYCHOTHERAPIE, 153–66.
- Cohen-Kettenis, P. T. et al. (2008). *The Treatment of Adolescent Transsexuals: Changing Insights*, 5(8) THE JOURNAL OF SEXUAL MEDICINE, 1892–97. doi:10.1111/j.1743-6109.2008.00870.x.
- COHERE [Council for Choices in Health Care]. (2022). *Palveluvalikoimaneuvoston Suositus: Alaikäisten Sukupuoli-identiteetin Variaatioihin Liittyvän Dysforian Lääketieteelliset Hoitomenetelmät. [Recommendation of the Council for Choices in Health Care in Finland: Medical Treatment Methods for Dysphoria Related to Gender Variance in Minors.]*

- Coleman E. et al. (2012). *Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People*, Version 7, 13(4) INTERNATIONAL JOURNAL OF TRANSGENDER HEALTH, 165–232. doi.org/10.1080/15532739.2011.700873.
- Coleman E. et al. (2022). *Standards of Care for the Health of Transgender and Gender Diverse People*, Version 8, 23(8) [sup1] INTERNATIONAL JOURNAL OF TRANSGENDER HEALTH, S1–S259. doi:10.1080/26895269.2022.2100644.
- D'Angelo, R. (2018). *Psychiatry's Ethical Involvement in Gender-Affirming Care*. 26(5) AUSTRALASIAN PSYCHIATRY, 460–63. doi:10.1177/1039856218775216.
- D'Angelo, R. et al. (2021). *One Size Does Not Fit All: In Support of Psychotherapy for Gender Dysphoria*, 50(1) ARCHIVES OF SEXUAL BEHAVIOR, 7–16. doi:10.1007/s10508-020-01844-2.
- D'Angelo R. (2023). Supporting autonomy in young people with gender dysphoria: psychotherapy is not conversion therapy. *Journal of medical ethics*, jme-2023-109282. Advance online publication. <https://doi.org/10.1136/jme-2023-109282>
- Dahlen S. et al. (2021). *International Clinical Practice Guidelines for Gender Minority/Trans People: Systematic Review and Quality Assessment*, 11 BMJ OPEN, e048943. doi:10.1136/bmjopen-2021-048943.
- Davis, L. (2022). *A Trans Pioneer Explains Her Resignation from the US Professional Association for Transgender Health*, QUILLETTE (Accessed February 1, 2022. <https://quilllette.com/2022/01/06/a-transgender-pioneer-explains-why-she-stepped-down-from-uspath-and-wpath/>).
- de Vries, A.L.C. et al. (2011). *Puberty Suppression in Adolescents With Gender Identity Disorder: A Prospective Follow-Up Study*, 8(8) JOURNAL OF SEXUAL MEDICINE, 2276–83. doi:10.1111/j.1743-6109.2010.01943.
- de Vries, A.L.C. et al. (2014). *Young Adult Psychological Outcome After Puberty Suppression and Gender Reassignment*, 134(4) PEDIATRICS, 696–704. doi:10.1542/peds.2013-2958.
- de Vries, A. L. C. (2020). *Challenges in Timing Puberty Suppression for Gender-Nonconforming Adolescents*, 146(4) PEDIATRICS, e2020010611. doi:10.1542/peds.2020-010611.

- Dhejne, C. et al. (2011). *Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden*, 6(2) PLOS ONE, e16885. doi:10.1371/journal.pone.0016885.
- Dhejne, C. et al. (2014). *An Analysis of All Applications for Sex Reassignment Surgery in Sweden, 1960–2010: Prevalence, Incidence, and Regrets*, 43(8) ARCHIVES OF SEXUAL BEHAVIOR, 1535–45. doi:10.1007/s10508-014-0300-8.
- Drobnič Radobuljac, M. et al (2024) *ESCAP statement on the care for children and adolescents with gender dysphoria: an urgent need for safeguarding clinical, scientific, and ethical standards*. EUR CHILD ADOLESC PSYCHIATRY. <https://doi.org/10.1007/s00787-024-02440-8>
- Dreger, A. (2015). *Galileo's Middle Finger: Heretics, Activists, and One Scholar's Search for Justice*. PENGUIN BOOKS.
- Edwards-Leeper, L. et al. (2017). *Psychological Profile of the First Sample of Transgender Youth Presenting for Medical Intervention in a U.S. Pediatric Gender Center*, 4(3) PSYCHOLOGY OF SEXUAL ORIENTATION AND GENDER DIVERSITY, 374–82. doi:10.1037/sgd0000239.
- Edwards-Leeper, L. and Anderson, E. (November 24, 2021). *The Mental Health Establishment is Failing Trans Kids*. THE WASHINGTON POST. (Accessed February 1, 2022. <https://www.washingtonpost.com/outlook/2021/11/24/trans-kids-therapy-psychologist/>)
- Ehrensaft, B. (2015). *Listening and Learning from Gender-Nonconforming Children*. 68(1) THE PSYCHOANALYTIC STUDY OF THE CHILD, 28–56. doi:10.1080/00797308.2015.11785504.
- Entwistle, K. (2020). *Debate: Reality check – Detransitioners' Testimonies Require Us to Rethink Gender Dysphoria*, 26(1) CHILD AND ADOLESCENT MENTAL HEALTH, 15–16. DOI:10.1111/CAMH.12380.
- Erlangsen, A. et al. (2023.) *Transgender Identity and Suicide Attempts and Mortality in Denmark*, 329(24) JAMA NETWORK, 2145–53. doi:10.1001/jama.2023.8627.
- Evans, M. & Evans, S. (2021). *Gender Dysphoria: A Therapeutic Model for Working with Children, Adolescents and Young Adults*. PHOENIX PUBLICATION, UK.

- Expósito-Campos, P. (2021). *A Typology of Gender Detransition and Its Implications for Healthcare Providers*. 47(3) JOURNAL OF SEX & MARITAL THERAPY, 270–80. doi.org/10.1080/0092623X.2020.1869126.
- Frigerio, A. et al. (2021). *Structural, Functional, and Metabolic Brain Differences as a Function of Gender Identity or Sexual Orientation: A Systematic Review of the Human Neuroimaging Literature*, 50(8) ARCHIVES OF SEXUAL BEHAVIOR, 3329–52. doi:10.1007/s10508-021-02005-9.
- Getahun, D. et al. (2018). *Cross-sex Hormones and Acute Cardiovascular Events in Transgender Persons: A Cohort Study*, 169(4) ANNALS OF INTERNAL MEDICINE, 205–13. doi:10.7326/M17-2785.
- Gender Identity Development Service of the NHS (GIDS). (2019). *Referrals to the Gender Identity Development Service (GIDS) Level Off in 2018-19*. <https://tavistockandportman.nhg.uk/about-us/news/stories/referrals-gender-identitydevelopment-service-gids-level-2018-19>.
- Ghorayshi, A. (2022, Jan. 13). *Doctors Debate Whether Trans Teens Need Therapy Before Hormones*. THE NEW YORK TIMES (Accessed February 1, 2022. <https://www.nytimes.com/2022/01/13/health/transgender-teens-hormones.html>).
- Ghorayshi, A. (2023, Aug. 3). *Medical Group Backs Youth Gender Treatments, but Calls for Research Review*. THE NEW YORK TIMES (Accessed August 8, 2023. <https://www.nytimes.com/2023/08/03/health/aap-gender-affirming-care-evidence-review.html>).
- Griffin, L. et al. (2021). *Sex, Gender and Gender Identity: A Reevaluation of the Evidence*, 45(5) BJPSYCH BULLETIN, 291–99. doi:10.1192/bjb.2020.73.
- Guss, C. et al. (2015). *Transgender and Gender Nonconforming Adolescent Care: Psychosocial and Medical Considerations*, 26(4) CURRENT OPINIONS IN PEDIATRICS, 421–26. doi:10.1097/MOP.0000000000000240.
- Guyatt, G.H. et al. (Clinical research ed., 2008). *What Is “Quality of Evidence” and Why Is It Important to Clinicians?* BMJ 995–98. doi:10.1136/bmj.39490.551019.BE.
- Hall R, Taylor J, Hewitt CE, et al. (2024). *Impact of social transition in relation to gender for children and adolescents: a systematic review*. ARCHIVES OF DISEASE IN CHILDHOOD. Published Online First: 09 April 2024. doi: 10.1136/archdischild-2023-326112

- Hall, R., Mitchell, L., & Sachdeva, J. (2021). *Access to Care and Frequency of Detransition Among a Cohort Discharged by a UK National Adult Gender Identity Clinic: Retrospective Case-Note Review*, 7(6) BJPSYCH OPEN, e184. doi:10.1192/bjo.2021.1022.
- Haupt, C. et al. (2020). *Antiandrogen or Estradiol Treatment or Both During Hormone Therapy in Transitioning Transgender Women*, 11 COCHRANE DATABASE OF SYSTEMATIC REVIEWS. doi:10.1002/14651858.CD013138.pub2.
- Hembree, W. C. et al. (2017). *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline*, 102(11) THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM, 3869–903. doi:10.1210/jc.2017-01658.
- Hruz, P. (2020). *Deficiencies in Scientific Evidence for Medical Management of Gender Dysphoria*, 87(1) THE LINACRE QUARTERLY 34–42. doi:10.1177/0024363919873762.
- Jackson S.S. et al. (2023). *Analysis of Mortality Among Transgender and Gender Diverse Adults in England*, 6(1) JAMA NETWORK OPEN, e2253687. doi:10.1001/jamanetworkopen.2022.53687.
- Johns, M. M. et al. (2019). *Transgender Identity and Experiences of Violence Victimization, Substance Use, Suicide Risk, and Sexual Risk Behaviors Among High School Students—19 States and Large Urban School Districts, 2017*, 68(3) MORBIDITY AND MORTALITY WEEKLY REPORT, 67–71. doi:10.15585/mmwr.mm6803a3.
- Jorgensen, S.C.J. (2023). *Transition Regret and Detransition: Meanings and Uncertainties*, 52 ARCHIVES OF SEXUAL BEHAVIOR, 2173–84. <https://doi.org/10.1007/s10508-023-02626-2>.
- Joseph, T., Ting, J., & Butler, G. (2019). *The Effect of GnRH Analogue Treatment on Bone Mineral Density in Young Adolescents with Gender Dysphoria: Findings from a Large National Cohort*, 32(10) JOURNAL OF PEDIATRIC ENDOCRINOLOGY AND METABOLISM, 1077–81. doi:10.1515/jpem-2019-0046.
- Kaltiala-Heino, R. et al. (2015). *Two Years of Gender Identity Service for Minors: Overrepresentation of Natal Girls with Severe Problems in Adolescent Development*, 9(1) CHILD AND ADOLESCENT PSYCHIATRY AND MENTAL HEALTH. doi.org/10.1186/s13034-015-0042-y.

- Kaltiala-Heino, R. et al. (2018). *Gender Dysphoria in Adolescence: Current Perspectives*, 9 ADOLESCENT HEALTH, MEDICINE AND THERAPEUTICS, 31–41. doi:10.2147/AHMT.S135432.
- Kaltiala, R. et al. (2020). *Adolescent Development and Psychosocial Functioning After Starting Cross-sex Hormones for Gender Dysphoria*, 74(3) NORDIC JOURNAL OF PSYCHIATRY, 213–19. doi:10.1080/08039488.2019.1691260.
- Katz-Wise, S. (2017). *Transactional Pathways of Transgender Identity Development in Transgender and Gender Nonconforming Youth and Caregivers from the Trans Youth Family Study*, 18(3) INTERNATIONAL JOURNAL OF TRANSGENDERISM, 243–63. doi:10.1080/15532739.2017.1304312.
- Kendler K. S. (2019). *From Many to One to Many-the Search for Causes of Psychiatric Illness*, 76(10) JAMA PSYCHIATRY, 1085–91. doi:10.1001/jamapsychiatry.2019.1200.
- Kidd, K. M. et al. (2021). *Prevalence of Gender-Diverse Youth in an Urban School District*, 147(6) PEDIATRICS, e2020049823. doi.org/10.1542/peds.2020-049823.
- Klink, D. et al. (2015). *Bone Mass in Young Adulthood Following Gonadotropin-Releasing Hormone Analog Treatment and Cross-Sex Hormone Treatment in Adolescents with Gender Dysphoria*, 100(2) JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM E270-5. doi:10.1210/jc.2014-2439.
- Kozłowska, K. et al. (2021). *Attachment Patterns in Children and Adolescents with Gender Dysphoria*, 11 FRONTIERS IN PSYCHOLOGY. doi.org/10.3389/fpsyg.2020.582688.
- Laidlaw, M. K. et al. (2019). *Letter to the Editor: “Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline”*, 104(3) THE JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, 686–87.
- Landén, M. (2020). *The Effect of Gender-Affirming Treatment on Psychiatric Morbidity Is Still Undecided*, 177(8) AMERICAN JOURNAL OF PSYCHIATRY, 767–68. doi.org/10.1176/appi.ajp.2020.19111165.
- Leibowitz, S. & de Vries, A.L.C. (2016). *Gender Dysphoria in Adolescence*, 28(1) INTERNATIONAL REVIEW OF PSYCHIATRY, 21–35. doi:10.3109/09540261.2015.1124844.

- Levine, S. (2013). *Barriers to Loving: A Clinician's Perspective*. (ROUTLEDGE, New York).
- Levine, S. (2016). *Reflections on the Legal Battles Over Prisoners with Gender Dysphoria*. 44(2) JOURNAL OF THE AMERICAN ACADEMY OF PSYCHIATRY LAW, 236–45.
- Levine, S. (2018 Epub 2017). *Ethical Concerns About Emerging Treatment Paradigms for Gender Dysphoria*, 44(1) JOURNAL OF SEX & MARITAL THERAPY, 29–44. doi:10.1080/0092623X.2017.1309482.
- Levine, S. (2018a). *Informed Consent for Transgender Patients*, 45(3) JOURNAL OF SEX & MARITAL THERAPY, 218–29. doi:10.1080/0092623X.2018.1518885.
- Levine, S. (2018b). *Transitioning Back to Maleness*, 47(4) ARCHIVES OF SEXUAL BEHAVIOR, 1295–300. doi:10.1007/S10508-017-1136-9.
- Levine, S. (2021). *Reflections on the Clinician's Role with Individuals Who Self-identify as Transgender*, 50 ARCHIVES OF SEXUAL BEHAVIOR, 3527–36. <https://doi.org/10.1007/s10508-021-02142-1>.
- Levine, S. et al. (2022). *Reconsidering Informed Consent for Trans-Identified Children, Adolescents, and Young Adults*. JOURNAL OF SEX & MARITAL THERAPY 48(7), 706–727. <https://doi.org/10.1080/0092623X.2022.2046221>.
- Lichtenstein M. et al. (2020). *The Mount Sinai Patient-Centered Preoperative Criteria Meant to Optimize Outcomes Are Less of a Barrier to Care Than Wpath Soc 7 Criteria Before Transgender- Specific Surgery*, 5(3) TRANSGENDER HEALTH, 166–72.
- Littman, L. (2018). *Parent Reports of Adolescents and Young Adults Perceived to Show Signs of a Rapid Onset of Gender Dysphoria*, 13(8) PLoS ONE, e0202330.
- Littman, L. (2021). *Individuals Treated for Gender Dysphoria with Medical and/or Surgical Transition Who Subsequently Detransitioned: A Survey of 100 Detransitioners*, 50 ARCHIVES OF SEXUAL BEHAVIOR, 3353–69. <https://doi.org/10.1007/s10508-021-02163-w>
- Ludvigsson J.F. et al. (2023). *A Systematic Review of Hormone Treatment for Children with Gender Dysphoria and Recommendations for Research*, ACTA PAEDIATR. doi:10.1111/apa.16791. Epub ahead of print. PMID: 37069492.

MacKinnon, K.R. et al. (2022). *Health Care Experiences of Patients Discontinuing or Reversing Prior Gender-Affirming Treatments*, 5(7) JAMA NETWORK OPEN, e2224717. <https://doi.org/10.1001/jamanetworkopen.2022.24717>.

Malone, W. et al. (2021). *Letter to the Editor from William J. Malone et al.: “Proper Care of Transgender and Gender-diverse Persons in the Setting of Proposed Discrimination: A Policy Perspective”*. 106(8) THE JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM, e3287– e3288. doi:10.1210/clinem/dgab205.

Marchiano, L. (2021). *Gender Detransition: A Case Study*, 66(4) JOURNAL OF ANALYTICAL PSYCHOLOGY, 813–32.

Mc Namara M. et al. (2022). *Protecting Transgender Health and Challenging Science Denialism in Policy*. NEW ENGLAND JOURNAL OF MEDICINE, 1919–21. NEJMp2213085. doi:10.1056/NEJMp2213085.

McNeil, J. et al. (2017). *Suicide in Trans Populations: A Systematic Review of Prevalence and Correlates*, 4(3) Psychology of Sexual Orientation & Gender Diversity, 341–53.

Meyer-Bahlburg H.F. (2005). *Gender Identity Outcome in Female-Raised 46,Xy Persons with Penile Agenesis, Cloacal Exstrophy of the Bladder, or Penile Ablation*, 34(4) ARCHIVES OF SEXUAL BEHAVIOR, 423–438.

National Board of Health and Welfare (NBHW). (2022). *Sweden, Care of Children and Adolescents with Gender Dysphoria* (Official English Summary) SWEDISH SOCIALSTYRELSEN.

National Health Service (NHS), England. (2023a). *Consultation Report for the Interim Service Specification for Specialist Gender Incongruence Services for Children and Young People*.

National Health Service (NHS), England. (2023b). *Interim Specialist Service for Children and Young People with Gender Incongruence*.

National Health Service (NHS), England. (2024). *Clinical Policy: Puberty suppressing hormones (PSH) for children and young people who have gender incongruence / gender dysphoria*.

National Health Service (NHS), Scotland. (2024). *Gender Service for Young People at Sandyford – Service Update*. <https://www.sandyford.scot/sexual-health-services/gender-service-at-sandyford/gender-young-people-service/>

National Institute for Health and Care Excellence. (2020a). *Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria*.

National Institute for Health and Care Excellence.(2020b). *Evidence Review: Gender-Affirming Hormones for Children and Adolescents with Gender Dysphoria*.

National Institutes of Health. (Released 10-09-2001). *NIH Policy and Guidelines on The Inclusion of Women and Minorities as Subjects in Clinical Research*. Notice Number NOT-OD-02-001.
<https://grants.nih.gov/policy/inclusion/women-and-minorities/guidelines.htm>

National Institutes of Health. (Released 06-09-2015). *Consideration of Sex as a Biological Variable in NIH-Funded Research*. Notice Number NOT-OD-15-102. <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-15-102.html>

National Institutes of Health. Downloaded 2-11-2022). *Office of Research on Women's Health. How Sex and Gender Influence Health and Disease*.
https://orwh.od.nih.gov/sites/orwh/files/docs/SexGenderInfographic_11x17_508.pdf

Newcomb, M. et al. (2020). *High Burden of Mental Health Problems, Substance Use, Violence, and Related Psychosocial Factors in Transgender, Non-Binary, and Gender Diverse Youth and Young Adults*, 49(2) ARCHIVES OF SEXUAL BEHAVIOR 645–59. doi:10.1007/s10508-019-01533-9.

Olson, K. et al. (2022). *Gender Identity 5 Years After Social Transition*, 150(2) PEDIATRICS, e2021056082. doi.org/10.1542/peds.2021-056082.

Pasternack, I. et al. (2019). *Lääketieteelliset menetelmät sukupuolivariaatioihin liittyvän dysforian hoidossa. Systemaattinen katsaus*. SUMMARYX [Medical Methods in the Treatment of Dysphoria Related to Gender Variations. A Systematic Review, SUMMARYX Finnish Systematic Review].

Reed G.M. et al. (2016). *Disorders Related to Sexuality and Gender Identity in the ICD-11: Revising the ICD-10 Classification Based on Current Scientific Evidence, Best Clinical Practices, and Human Rights Considerations*, 15(3) WORLD PSYCHIATRY, 205–21. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5032510/>.

- Reiner, W.G. & Gearhart, J. P. (2004). *Discordant Sexual Identity in Some Genetic Males with Cloacal Exstrophy Assigned to Female Sex at Birth*, 350(4) THE NEW ENGLAND JOURNAL OF MEDICINE, 333–41.
- Reisner, S. et al. (2015). *Mental Health of Transgender Youth in Care at an Adolescent Urban Community Health Center: A Matched Retrospective Cohort Study*, 56(3) JOURNAL OF ADOLESCENT HEALTH, 274–79.
- Rider, G. et al. (2018). *Health and Care Utilization of Transgender/Gender Non-Conforming Youth: A Population Based Study*, 150(2) PEDIATRICS, e2021056082. doi:10.1542/peds.2017-1683.
- Ristori, J. & Steensma, T.D. (2016). *Gender Dysphoria in Childhood*, 28(1) INTERNATIONAL REVIEW OF PSYCHIATRY, 13–20. doi:10.3109/09540261.2015.1115754.
- Roberts, C.M. (2022). *Continuation of Gender-affirming Hormones Among Transgender Adolescents and Adults*, 107(9) JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, e3937–43.
- Royal Australian and New Zealand College of Psychiatrists. (2021). *Statement: Recognising and Addressing the Mental Health Needs of People Experiencing Gender Dysphoria*. <https://www.ranzcp.org/clinical-guidelines-publications/clinical-guidelines-publications-library/recognising-and-addressing-the-mental-health-needs-of-people-experiencing-gender-dysphoria>
- Saraswat, A. et al. (2015). *Evidence Supporting the Biologic Nature of Gender Identity*, 21(2) ENDOCRINE PRACTICE, 199–204. doi:10.4158/EP14351.RA.
- SBU [Swedish Agency for Health Technology Assessment and Assessment of Social Services], (2022). *Hormone Therapy of Gender Dysphoria—Children and Young People: A Systematic Review and Evaluation of Medical Aspects*. https://www.sbu.se/contentassets/ea4e698fa0c4449aaae964c5197cf940/hormonbehandling-vid-konsdysfori_barn-och-unga.pdf
- Schneider, M. et al. (2017). *Brain Maturation, Cognition and Voice Pattern in a Gender Dysphoria Case Under Pubertal Suppression*, 11 FRONTIERS IN HUMAN NEUROSCIENCE. doi.org/10.3389/fnhum.2017.00528.
- Shirazi, T.N. et al. (2020). *Pubertal Timing Predicts Adult Psychosexuality: Evidence From Typically Developing Adults and Adults with Isolated GnRH Deficiency*, 119 PSYCHONEUROENDOCRINOLOGY. doi.org/10.1016/j.psyneuen.2020.104733.

- Shumer, D. & Tishelman, A. (2015). *The Role of Assent in the Treatment of Transgender Adolescents*, 16(2) INTERNATIONAL JOURNAL OF TRANSGENDERISM, 97–102. doi:10.1080/15532739.2015.1075929.
- Shumer, D. et al. (2016). *Evaluation of Asperger Syndrome in Youth Presenting to a Gender Dysphoria Clinic*, 3(5) LGBT HEALTH 387—90. doi:10.1089/lgbt.2015.0070.
- Shumer, D. et al. (2017). *Overrepresentation of Adopted Adolescents at a Hospital-Based Gender Dysphoria Clinic*, 2(1) TRANSGENDER HEALTH, 76–9. doi:10.1089/trgh.2016.0042.
- Simonsen, R.K. et al. (2016). *Long-Term Follow-Up of Individuals Undergoing Sex Reassignment Surgery: Psychiatric Morbidity & Mortality*, 70(4) NORDIC JOURNAL OF PSYCHIATRY, 241–47. doi:10.3109/08039488.2015.1081405.
- Singh, D. et al. (2021). *A Follow-Up Study of Boys with Gender Identity Disorder*, 12 FRONTIERS IN PSYCHIATRY. doi.org/10.3389/fpsy.2021.632784.
- Spiliadis, A. (2019). *Towards a Gender Exploratory Model: Slowing Things Down, Opening Things up and Exploring Identity Development*, 35 METALOGOS SYSTEMIC THERAPY JOURNAL. https://www.researchgate.net/publication/334559847_Towards_a_Gender_Exploratory_Model_slowing_things_down_opening_things_up_and_exploring_identity_development
- Steensma, T.D. et al. (2013). *Factors Associated with Desistence and Persistence of Childhood Gender Dysphoria: A Quantitative Follow-Up Study*. 52(6) JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY, 582–90. doi:10.1016/j.jaac.2013.03.016.
- Taylor, J., Mitchell, A., Hall, R., et al. (2024a). *Interventions to suppress puberty in adolescents experiencing gender dysphoria or incongruence: a systematic review*. ARCHIVES OF DISEASE IN CHILDHOOD. Published Online First: 09 April 2024. doi: 10.1136/archdischild-2023-326669
- Taylor, J., Mitchell, A., Hall, R., et al. (2024b). *Masculinising and feminising hormone interventions for adolescents experiencing gender dysphoria or incongruence: a systematic review*. ARCHIVES OF DISEASE IN CHILDHOOD. Published Online First: 09 April 2024. doi: 10.1136/archdischild-2023-326670

- Thoma, B. et al. (2021). *Disparities in Childhood Abuse Between Transgender and Cisgender Adolescents*, 148(2) PEDIATRICS, e2020016907. doi:10.1542/peds.2020-016907.
- Thompson, L. et al. (2022). *A PRISMA Systemic Review of Adolescent Gender Dysphoria Literature: 2) Mental Health*, PLOS GLOBAL PUBLIC HEALTH. doi.org/10.1371/journal.pgph.0000426.
- Tishelman, A.C. et al. (2015). *Serving Transgender Youth: Challenges, Dilemmas and Clinical Examples*, 46(1) PROFESSIONAL PSYCHOLOGY, RESEARCH AND PRACTICE, 37–45.
- Toomey R.B. et al. (2018). *Transgender Adolescent Suicide Behavior*, 142(4) PEDIATRIC, e20174218. doi.org/10.1542/peds.2017-4218.
- UKOM [Norwegian Healthcare Investigation Board]. (2023). *Pasientsikkerhet for barn og unge med kjønnsinkongruens [Patient Safety for Children and Adolescents with Gender Incongruence]*. <https://ukom.no/rapporter/pasientsikkerhet-for-barn-og-unge-med-kjonnsinkongruens/sammendrag>.
- UK Department of Education (2023). *Gender Questioning Children, Non-statutory guidance for schools and colleges in England. Draft for consultation*. https://consult.education.gov.uk/equalities-political-impartiality-anti-bullying-team/gender-questioning-children-proposed-guidance/supporting_documents/Gender%20Questioning%20Children%20%20nonstatutory%20guidance.pdf
- Turban, J.L. et al. (2020). *Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation*, 145(2) PEDIATRICS, e20191725. doi:10.1542/peds.2019-1725.
- Ulrich, M.R., (2024) *Practicing Medicine in the Culture Wars—Gender-Affirming Care and the Battles over Clinician Autonomy*. NEJM 390:9, 779-781
- Vandenbussche, E. (2020). *Detransition-Related Needs and Support: A Cross-Sectional Online Survey*, 69(9) JOURNAL OF HOMOSEXUALITY, 1602–20. doi.org/10.1080/00918369.2021.1919479.
- van der Miesen, et al. (2018). *Is There a Link Between Gender Dysphoria and Autism Spectrum Disorder?* 57(11) JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY, 884–85. doi:10.1016/j.jaac.2018.04.022.

- van der Miesen, et al. (2020). *Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care Compared With Cisgender General Population Peers*, 66(6) JOURNAL OF ADOLESCENT HEALTH, 699–704. doi:10.1016/j.jadohealth.2019.12.018.
- van Zijverden, L. M., Wiepjes, C. M., van Diemen, J. J. K., Thijs, A., & den Heijer, M. (2024). *Cardiovascular disease in transgender people: a systematic review and meta-analysis*. EUROPEAN JOURNAL OF ENDOCRINOLOGY, 190(2), S13–S24.
- Vlot, M. et al. (2016). *Effect of Pubertal Suppression and Cross-sex Hormone Therapy on Bone Turnover Markers and Bone Mineral Apparent Density (BMAD) in Transgender Adolescents*, 95 BONE, 11–19. doi:10.1016/j.bone.2016.11.008.
- Vrouenraets, L. et al. (2020). *Dealing with Moral Challenges in Treatment of Transgender Children and Adolescents: Evaluating the Role of Moral Case Deliberation*, 49 ARCHIVES OF SEXUAL BEHAVIOR, 2619–34. doi.org/10.1007/s10508-020-01762-3.
- Vrouenraets, L. et al. (2021). *Assessing Medical Decision-Making Competence in Transgender Youth*. 148(6) PEDIATRICS, e2020049643. doi:10.1542/peds.2020-049643.
- Vrouenraets L. et al. (2022). *Medical Decision-Making Competence Regarding Puberty Suppression: Perceptions of Transgender Adolescents, Their Parents and Clinicians*. EUROPEAN CHILD & ADOLESCENT PSYCHIATRY. <https://doi.org/10.1007/s00787-022-02076-6>.
- Wiepjes, C.M. et al. (2018). *The Amsterdam Cohort of Gender Dysphoria Study (1972–2015): Trends in Prevalence, Treatment, and Regrets*, 15(4) THE JOURNAL OF SEXUAL MEDICINE, 582–90. doi:10.1016/j.jsxm.2018.01.016.
- Wiepjes, C.M. et al. (2020). *Trends in Suicide Death Risk in Transgender People: Results from the Amsterdam Cohort of Gender Dysphoria Study (1972–2017)*. 141(6) ACTA PSYCHIATRICA SCANDINAVICA, 486–91. doi:10.1111/acps.13164.
- World Health Organization. *Gender and Health*. https://www.who.int/health-topics/gender#tab=tab_1. (Downloaded 2-11-2022).
- World Health Organization, *International Statistical Classification of Diseases and Related Health Problems*, (2019, 11th ed.) <https://icd.who.int/>.

WPATH *De-Psychopathologisation Statement* (May 26, 2010), available at <https://wpath.org/policies>. (last accessed January 21, 2020).

Zucker, K. (2018). *The Myth of Persistence: Response to “A Critical Commentary on Follow-up Studies and ‘Desistance’ Theories About Transgender and Gender Non-conforming Children” By Temple Newhook et al.*, 19(2) INTERNATIONAL JOURNAL OF TRANSGENDERISM, 231–45. doi.org/10.1080/15532739.2018.1468293.

Zucker, K. (2019). *Adolescents with Gender Dysphoria: Reflections on Some Contemporary Clinical and Research Issues*, 48(7) ARCHIVES OF SEXUAL BEHAVIOR, 1983–92. doi:10.1007/s10508-019-01518-8.

Zucker, K. (2020). *Different Strokes for Different Folks*, 25(1) CHILD ADOLESCENT MENTAL HEALTH, 36–7. doi:10.1111/camh.12330.

EXHIBIT A

Curriculum Vita
Stephen B. Levine, M.D.

Brief Introduction

Dr. Levine is Clinical Professor of Psychiatry at Case Western Reserve University School of Medicine. He is the author or coauthor of numerous books on topics relating to human sexuality and related relationship and mental health issues. Dr. Levine has been teaching, providing clinical care, and writing since 1973, and has generated original research, invited papers, commentaries, chapters, and book reviews. He has served as a journal manuscript and book prospectus reviewer for many years. Dr. Levine has been co-director of the Center for Marital and Sexual Health/ Levine, Risen & Associates, Inc. in Beachwood, Ohio from 1992 to the present. He received a lifetime achievement Masters and Johnson's Award from the Society for Sex Therapy and Research in March 2005. He was given his Department of Psychiatry's Hall of Fame Award in 2021.

Personal Information

Date of birth 1/14/42

Medical license no. Ohio 35-03-0234-L

Board Certification 6/76 American Board of Neurology and Psychiatry

Education

1963 BA Washington and Jefferson College

1967 MD Case Western Reserve University School of Medicine

1967-68 internship in Internal Medicine University Hospitals of Cleveland

1968-70 Research associate, National Institute of Arthritis and Metabolic Diseases, Epidemiology Field Studies Unit, Phoenix, Arizona, United States Public Health Service

1970-73 Psychiatric Residency, University Hospitals of Cleveland

1974-77 Robert Wood Johnson Foundation Clinical Scholar

Appointments at Case Western Reserve University School of Medicine

1973- Assistant Professor of Psychiatry

1979-Associate Professor

1982-Awarded tenure

1985-Full Professor

1993-Clinical Professor

Honors

Summa Cum Laude, Washington & Jefferson

Teaching Excellence Award-1990 and 2010 (Residency program)

Visiting Professorships

- Stanford University-Pfizer Professorship program (3 days)–1995
- St. Elizabeth's Hospital, Washington, DC –1998
- St. Elizabeth's Hospital, Washington, DC--2002

Named to America's Top Doctors consecutively since 2001

Invitations to present various Grand Rounds at Departments of Psychiatry and Continuing Education Lectures and Workshops

Masters and Johnson Lifetime Achievement Award from the Society of Sex Therapy and Research, April 2005 along with Candace Risen and Stanley Althof

2006 SSTAR Book Award for The Handbook of Clinical Sexuality for Mental Health Professionals: Exceptional Merit

2018—Albert Marquis Lifetime Achievement Award from Marquis Who's Who. (Exceling in one's field for at least twenty years)

Invitations to present various Grand Rounds at Departments of Psychiatry and Continuing Education Lectures and Workshops during 2019-2024:

- March 12, 2021-The Mental Health Professionals' Role with the Transgendered: Making the Controversies Clear Grand Rounds University Hospitals of Cleveland
- May 1, 2021 Psychotherapeutic Approaches to Sexual Problems Invited lecture to the American Psychiatric Association Annual Meeting (similar lecture in May 2020)
- Seven years of Continuing Education Courses at the American Psychiatric Association Meetings on Love and Sexuality
- Grand Rounds at Cleveland Clinic Foundation on Sexuality Education of Psychiatric Residents, June 25, 2020
- Grand Rounds at Cleveland Clinic Foundation June 2019 Transgenderism: Beware! Repeated by invitation at Akron General Hospital and at National meeting of American Association of Partial Hospitalization in 2019
- Three-hour workshop at Society of Sex Therapy and Research in 2020 on Therapy for Sexual Problems
- Workshop on Teaching Sexuality to residents at the American Association of

Residency Training Directors 2020 annual meeting

- Three-hour continuing education seminar with Massachusetts Department of Corrections Gender Identity Staff Fall 2019
- Four-hour seminar on Gender Dysphoria at Harvard Student Health Service Staff
- Grand rounds presentations at Henry Ford Hospital on Transgender Evaluation and Treatment of Children, Adolescents, and Adults
- Symposium (90 minutes) at the American Psychiatric Association 2022 meeting The Management of Adolescent-Onset Transgender Identity: Should “Best Practices” Change?
- First lecture at 2023 Tampere Finland Meeting on psychotherapy of gender dysphoria
- Lecture on Psychiatric evaluation of trans youth at Genspect Meeting in Denver, September 2023
- Lecture on the early history of trans care in NYC 2023 SEGM meeting

Professional Societies

1971- American Psychiatric Association; fellow; #19909

2005-American Psychiatric Association- **Distinguished Life Fellow**

1973- Cleveland Psychiatric Society

1973-Cleveland Medical Library Association

1985-Life Fellow

2003 Distinguished Life Fellow

1974-Society for Sex Therapy and Research

1987-89-President

1983- International Academy of Sex Research

1983- Harry Benjamin International Gender Dysphoria Association

1997-8 Chairman, Standards of Care Committee

1994- 1999 Society for Scientific Study of Sex

Community Boards

1999-2002Case Western Reserve University Medical Alumni Association

1996-2001 Bellefaire Jewish Children’s Bureau

1999-2001 Physicians’ Advisory Committee, The Gathering Place (cancer rehabilitation)

Editorial Boards

1978-80 Book Review Editor Journal Sex and Marital Therapy

Manuscript Reviewer for:

- a. Archives of Sexual Behavior
- b. Annals of Internal Medicine
- c. British Journal of Obstetrics and Gynecology
- d. JAMA
- e. Diabetes Care
- f. American Journal of Psychiatry
- g. Maturitas
- h. Psychosomatic Medicine
- i. Sexuality and Disability
- j. Journal of Nervous and Mental Diseases
- k. Journal of Neuropsychiatry and Clinical Neurosciences
- l. Neurology
- m. Journal Sex and Marital Therapy
- n. Journal Sex Education and Therapy
- o. Social Behavior and Personality: an international journal (New Zealand)
- p. International Journal of Psychoanalysis
- q. International Journal of Transgenderism
- r. Journal of Urology
- s. Journal of Sexual Medicine
- t. Current Psychiatry
- u. International Journal of Impotence Research
- v. Postgraduate medical journal
- w. Academic Psychiatry

Prospectus Reviewer

- a. Guilford
- b. Oxford University Press
- c. Brunner/Routledge

d. Routledge

Administrative Responsibilities

Principal Investigator of approximately 70 separate studies involving pharmacological interventions for sexual dysfunction since 1989.

Co-leader of case conferences at DELRLLC.com

Expert testimony at trial or by deposition within the last 4 years

Provided expert testimony for Massachusetts Dept. of Corrections in its defense of a lawsuit brought by prisoner Katheena Soneeya, including by deposition in October 2018, and in-court testimony in 2019.

Provided expert testimony by deposition and at trial in *In the Interests of the Younger Children* (Dallas, TX), 2019.

Provided expert testimony by deposition in *Claire v. Florida Department of Management Services* (Florida) November 2020.

Testified in an administrative hearing in *In the matter of Rhys & Lynn Crawford* (Washington State), March 2021.

Testified multiple times in juvenile court in *In the matter of Asha Kerwin* (Tucson, Arizona), 2021.

Provided expert testimony by deposition in *Kadel et al v. Folwell et al.* (North Carolina), September 2021.

Provided expert testimony for Connecticut Dept. of Corrections in its defense of a lawsuit brought by prisoner Veronica-May Clark, including by deposition in March 2022.

Provided expert testimony by deposition in *B.P.J. v. West Virginia State Board of Education* (West Virginia) March 2022.

Provided expert testimony by deposition and at trial in *Brandt v. Rutledge* (Arkansas) 2022.

Provided expert testimony by deposition in *L.E. vs. Lee* (Tennessee) August 2022.

Provided expert testimony by deposition in *Siefert v Hamilton County* (Ohio) January 2023.

Provided expert testimony at trial in *Greenland v Greenland* (Illinois) March 2023.

Provided expert testimony at trial in *Dekker et al v Marsteller et al.* (Florida) May 2023.

Provided expert testimony at trial in *Doe v Ladapo* (Florida) December 2023.

Provided expert testimony by deposition in *Buchman v City of LaCross* (Wisconsin) January 2024.

Provided expert testimony for Indiana Dept. of Corrections in its defense of a lawsuit brought by prisoner Jonathon Richardson, including by deposition in February 2024, and in-court

testimony in March 2024.

Consultancies

Massachusetts Department of Corrections—evaluation of 12 transsexual prisoners and the development of a Gender Identity Disorders Program for the state prison system. Monthly consultation with the GID treatment team since February 2009 and the GID policy committee since February 2010. Ongoing

California Department of Corrections and Rehabilitation; 2012-2015; education, inmate evaluation, commentary on inmate circumstances, suggestions on future policies

Virginia Department of Corrections –evaluation of an inmate for management purposes

New Jersey Department of Corrections—evaluation of an inmate for management purposes

Idaho Department of Corrections—workshop 2016

Florida Department of Corrections-workshop 2016 or 2017

Ohio-evaluation of a prisoner for management purposes 2015

Massachusetts—continuing education seminar for GID clinic staff. 2019

Washington State—workshop on Gender Dysphoria for mental health professionals in DOC and evaluation of two women and one male transgender inmate 2018-9

Evaluation of trans inmate in Boston, Massachusetts 2022

New Jersey Department of Corrections: Four lectures, one week apart, Jan-Feb.2023

Grant Support/Research Studies

TAP—studies of Apomorphine sublingual in treatment of erectile dysfunction

Pfizer—Sertraline for premature ejaculation

Pfizer—Viagra and depression; Viagra and female sexual dysfunction; Viagra as a treatment for SSRI-induced erectile dysfunction

NIH- Systemic lupus erythematosus and sexuality in women

Sihler Mental Health Foundation

- a. Program for Professionals
- b. Setting up of Center for Marital and Sexual Health
- c. Clomipramine and Premature ejaculation
- d. Follow-up study of clergy accused of sexual impropriety

e. Establishment of services for women with breast cancer

Alza—controlled study of a novel SSRI for rapid ejaculation

Pfizer—Viagra and self-esteem

Pfizer- double-blind placebo control studies of a compound for premature ejaculation

Johnson & Johnson – controlled studies of Dapoxetine for rapid ejaculation

Proctor and Gamble: multiple studies to test testosterone patch for post menopausal sexual dysfunction for women on and off estrogen replacement

Lilly-Icos—study of Cialis for erectile dysfunction

VIVUS – study for premenopausal women with FSAD

Palatin Technologies- studies of bremelanotide in female sexual dysfunction—first intranasal then subcutaneous administration

Medtap – interview validation questionnaire studies

HRA- quantitative debriefing study for Female partners of men with premature ejaculation, Validation of a New Distress Measure for FSD,

Boehringer-Ingelheim- double blind and open label studies of a prosexual agent for hypoactive female sexual desire disorder

Biosante- studies of testosterone gel administration for post menopausal women with HSDD

J&J a single-blind, multi-center, in home use study to evaluate sexual enhancement effects of a product in females.

UBC-Content validity study of an electronic FSEP-R and FSDD-DAO and usability of study PRO measures in premenopausal women with FSAD, HSDD or Mixed FSAD/HSDD

National registry trial for women with HSDD

Endoceutics—two studies of DHEA for vaginal atrophy and dryness in post menopausal women

Palatin—study of SQ Bremelanotide for HSDD and FSAD

Trimel- a double-blind, placebo controlled study for women with acquired female orgasmic disorder.

S1 Biopharma- a phase 1-B non-blinded study of safety, tolerability and efficacy of Lorexys in premenopausal women with HSDD

HRA – qualitative and cognitive interview study for men experiencing PE

Publications

A) Books

- 1) Pariser SR, Levine SB, McDowell M (eds.), Clinical Sexuality, Marcel Dekker, New York, 1985
- 2) Sex Is Not Simple, Ohio Psychological Publishing Company, 1988; Reissued in paperback as: Solving Common Sexual Problems: Toward a Problem Free Sexual Life, Jason Aronson, Livingston, NJ. 1997
- 3) Sexual Life: A Clinician's Guide. Plenum Publishing Corporation. New York, 1992
- 4) Sexuality in Midlife. Plenum Publishing Corporation. New York, 1998
- 5) Editor, Clinical Sexuality. Psychiatric Clinics of North America, March, 1995.
- 6) Editor, (Candace Risen and Stanley Althof, associate editors) Handbook of Clinical Sexuality for Mental Health Professionals. Routledge, New York, 2003
 1. 2006 SSTAR Book Award: Exceptional Merit
- 7) Demystifying Love: Plain Talk For The Mental Health Professional. Routledge, New York, 2006
- 8) Senior editor, (Candace B. Risen and Stanley E. Althof, Associate editors), Handbook of Clinical Sexuality for Mental Health Professionals, 2nd edition. Routledge, New York, 2010.
- 9) Barriers to Loving: A Clinician's Perspective. Routledge, New York, 2014.
- 10) Senior editor Candace B. Risen and Stanley E. Althof, Associate editors), Handbook of Clinical Sexuality for Mental Health Professionals. 3rd edition Routledge, New York, 2016
- 11) Psychotherapeutic Approaches to Sexual Problems: An essential guide for Mental Health Professionals. American Psychiatric Publishing; 1st Edition, 2019.

B) Research and Invited Papers

When his name is not listed in a citation, Dr. Levine is either the solo or the senior author.

- 1) Sampliner R. Parotid enlargement in Pima Indians. *Annals of Internal Medicine* 1970; 73:571-73
- 2) Confrontation and residency activism: A technique for assisting residency change: *World Journal of Psychosynthesis* 1974; 6: 23-26
- 3) Activism and confrontation: A technique to spur reform. *Resident and Intern Consultant* 173; 2
- 4) Medicine and Sexuality. *Case Western Reserve Medical Alumni Bulletin* 1974:37:9-11.

- 5) Some thoughts on the pathogenesis of premature ejaculation. J. Sex & Marital Therapy 1975; 1:326-334
- 6) Marital Sexual Dysfunction: Introductory Concepts. Annals of Internal Medicine 1976;84:448-453
- 7) Marital Sexual Dysfunction: Ejaculation Disturbances 1976; 84:575-579
- 8) Yost MA: Frequency of female sexual dysfunction in a gynecology clinic: An epidemiological approach. Archives of Sexual Behavior 1976;5:229-238
- 9) Engel IM, Resnick PJ, Levine SB: Use of programmed patients and videotape in teaching medical students to take a sexual history. Journal of Medical Education 1976;51:425-427
- 10) Marital Sexual Dysfunction: Erectile dysfunction. Annals of Internal Medicine 1976;85:342-350
- 11) Male Sexual Problems. Resident and Staff Physician 1981:2:90-5
- 12) Female Sexual Problems. Resident and Staff Physician 1981:3:79-92
- 13) How can I determine whether a recent depression in a 40 year old married man is due to organic loss of erectile function or whether the depression is the source of the dysfunction? Sexual Medicine Today 1977;1:13
- 14) Corradi RB, Resnick PJ Levine SB, Gold F. For chronic psychologic impotence: sex therapy or psychotherapy? I & II Roche Reports; 1977
- 15) Marital Sexual Dysfunction: Female dysfunctions 1977; 86:588-597
- 16) Current problems in the diagnosis and treatment of psychogenic impotence. Journal of Sex & Marital Therapy 1977;3:177-186
- 17) Resnick PJ, Engel IM. Sexuality curriculum for gynecology residents. Journal of Medical Education 1978; 53:510-15
- 18) Agle DP. Effectiveness of sex therapy for chronic secondary psychological impotence Journal of Sex & Marital Therapy 1978;4:235-258
- 19) DePalma RG, Levine SB, Feldman S. Preservation of erectile function after aortoiliac reconstruction. Archives of Surgery 1978;113-958-962
- 20) Conceptual suggestions for outcome research in sex therapy Journal of Sex & Marital Therapy 1981;6:102-108
- 21) Lothstein LM. Transsexualism or the gender dysphoria syndrome. Journal of Sex & Marital Therapy 1982; 7:85-113
- 22) Lothstein LM, Levine SB. Expressive psychotherapy with gender dysphoria patients Archives General Psychiatry 1981; 38:924-929
- 23) Stern RG Sexual function in cystic fibrosis. Chest 1982; 81:422-8

- 24) Shumaker R. Increasingly Ruth: Towards understanding sex reassignment surgery Archives of Sexual Behavior 1983;12:247-61
- 25) Psychiatric diagnosis of patients requesting sex reassignment surgery. Journal of Sex & Marital Therapy 1980; 6:164-173
- 26) Problem solving in sexual medicine I. British Journal of Sexual Medicine 1982;9:21-28
- 27) A modern perspective on nymphomania. Journal of Sex & Marital Therapy 1982;8:316-324
- 28) Nymphomania. Female Patient 1982;7:47-54
- 29) Commentary on Beverly Mead's article: When your patient fears impotence. Patient Care 1982;16:135-9
- 30) Relation of sexual problems to sexual enlightenment. Physician and Patient 1983 2:62
- 31) Clinical overview of impotence. Physician and Patient 1983; 8:52-55.
- 32) An analytical approach to problem-solving in sexual medicine: a clinical introduction to the psychological sexual dysfunctions. II. British Journal of Sexual Medicine
- 33) Coffman CB, Levine SB, Althof SE, Stern RG Sexual Adaptation among single young adults with cystic fibrosis. Chest 1984;86:412-418
- 34) Althof SE, Coffman CB, Levine SB. The effects of coronary bypass in female sexual, psychological, and vocational adaptation. Journal of Sex & Marital Therapy 1984;10:176-184
- 35) Letter to the editor: Follow-up on Increasingly Ruth. Archives of Sexual Behavior 1984;13:287-9
- 36) Essay on the nature of sexual desire Journal of Sex & Marital Therapy 1984; 10:83-96
- 37) Introduction to the sexual consequences of hemophilia. Scandanavian Journal of Haemology 1984; 33:(supplement 40).75-
- 38) Agle DP, Heine P. Hemophila and Acquired Immune Deficiency Syndrome: Intimacy and Sexual Behavior. National Hemophilia Foundation; July, 1985
- 39) Turner LA, Althof SE, Levine SB, Bodner DR, Kursh ED, Resnick MI. External vacuum devices in the treatment of erectile dysfunction: a one-year study of sexual and psychosocial impact. Journal of Sex & Marital Therapy
- 40) Schein M, Zyzanski SJ, Levine SB, Medalie JH, Dickman RL, Alemagno SA. The frequency of sexual problems among family practice patients. Family Practice Research Journal 1988; 7:122-134

- 41) More on the nature of sexual desire. *Journal of Sex & Marital Therapy* 1987;13:35-44
- 42) Waltz G, Risen CB, Levine SB. Antiandrogen treatment of male sex offenders. *Health Matrix* 1987; V.51-55.
- 43) Lets talk about sex. National Hemophilia Foundation January, 1988
- 44) Sexuality, Intimacy, and Hemophilia: questions and answers . National Hemophilia Foundation January, 1988
- 45) Prevalence of sexual problems. *Journal Clinical Practice in Sexuality* 1988;4:14-16.
- 46) Kursh E, Bodner D, Resnick MI, Althof SE, Turner L, Risen CB, Levine SB. Injection Therapy for Impotence. *Urologic Clinics of North America* 1988; 15(4):625-630
- 47) Bradley SJ, Blanchard R, Coates S, Green R, Levine S, Meyer-Bahlburg H, Pauly I, Zucker KJ. Interim report of the DSM-IV Subcommittee for Gender Identity Disorders. *Archives of Sexual Behavior* 1991;;20(4):333-43.
- 48) Sexual passion in mid-life. *Journal of Clinical Practice in Sexuality* 1991 6(8):13-19
- 49) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DR, Resnick MI. Intracavernosal injections in the treatment of impotence: A prospective study of sexual, psychological, and marital functioning. *Journal of Sex & Marital Therapy* 1987; 13:155-167
- 50) Althof SE, Turner LA, Risen CB, Bodner DR, Kursh ED, Resnick MI. Side effects of self-administration of intracavernosal injection of papaverine and phentolamine for treatment of impotence. *Journal of Urology* 1989;141:54-7
- 51) Turner LA, Froman SL, Althof SE, Levine SB, Tobias TR, Kursh ED, Bodner DR. Intracavernous injection in the management of diabetic impotence. *Journal of Sexual Education and Therapy* 16(2):126-36, 1989
- 52) Is it time for sexual mental health centers? *Journal of Sex & Marital Therapy* 1989
- 53) Althof SE, Turner LA, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Sexual, psychological, and marital impact of self injection of papaverine and phentolamine: a long-term prospective study. *Journal of Sex & Marital Therapy*
- 54) Althof SE, Turner LA, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Why do so many men drop out of intracavernosal treatment? *Journal of Sex & Marital Therapy*. 1989;15:121-9
- 55) Turner LA, Althof SE, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick

MI. Self injection of papaverine and phentolamine in the treatment of psychogenic impotence. *Journal of Sex & Marital Therapy*. 1989; 15(3):163-78

56) Turner LA, Althof SE, Levine SB, Risen CB, Bodner D, Kursh ED, Resnick MI. Treating erectile dysfunction with external vacuum devices: impact upon sexual, psychological, and marital functioning. *Journal of Urology* 1990;141(1):79-82

57) Risen CB, Althof SE. An essay on the diagnosis and nature of paraphilia *Journal of Sex & Marital Therapy* 1990; 16(2):89-102.

58) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. Through the eyes of women: the sexual and psychological responses of women to their partners' treatment with self-injection or vacuum constriction therapy. *International Journal of Impotence Research (supplement 2)*1990;346-7.

59) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. A comparison of the effectiveness of two treatments for erectile dysfunction: self injection vs. external vacuum devices. *International Journal of Impotence Research (supplement 2)*1990;289-90

60) Kursh E, Turner L, Bodner D, Althof S, Levine S. A prospective study on the use of the vacuum pump for the treatment of impotence. *International Journal of Impotence Research (supplement 2)*1990;340-1.

61) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. Long term use of intracavernous therapy in the treatment of erectile dysfunction in *Journal of Sex & Marital Therapy* 1991; 17(2):101-112

62) Althof SE, Turner LA, Levine SB, Risen CB, Bodner DB, Kursh ED, Resnick MI. Long term use of vacuum pump devices in the treatment of erectile dysfunction in *Journal of Sex & Marital Therapy* 1991;17(2):81-93

63) Turner LA, Althof SE, Levine SB, Bodner DB, Kursh ED, Resnick MI. A 12-month comparison of the effectiveness of two treatments for erectile dysfunction: self injection vs. external vacuum devices. *Urology* 1992;39(2):139-44

64) Althof SE, The pathogenesis of psychogenic impotence. *J. Sex Education and Therapy*. 1991; 17(4):251-66

65) Mehta P, Bedell WH, Cumming W, Bussing R, Warner R, Levine SB. Letter to the editor. Reflections on hemophilia camp. *Clinical Pediatrics* 1991; 30(4):259-260

66) Successful Sexuality. Belonging/Hemophilia. (Caremark Therapeutic Services), Autumn, 1991

67) Psychological intimacy. *Journal of Sex & Marital Therapy* 1991; 17(4):259-68

- 68) Male sexual problems and the general physician, Georgia State Medical Journal 1992; 81(5): 211-6
- 69) Althof SE, Turner LA, Levine SB, Bodner DB, Kursh E, Resnick MI. Through the eyes of women: The sexual and psychological responses of women to their partner's treatment with self-injection or vacuum constriction devices. Journal of Urology 1992; 147(4):1024-7
- 70) Curry SL, Levine SB, Jones PK, Kurit DM. Medical and Psychosocial predictors of sexual outcome among women with systemic lupus erythematosus. Arthritis Care and Research 1993; 6:23-30
- 71) Althof SE, Levine SB. Clinical approach to sexuality of patients with spinal cord injury. Urological Clinics of North America 1993; 20(3):527-34
- 72) Gender-disturbed males. Journal of Sex & Marital Therapy 19(2):131-141, 1993
- 73) Curry SL, Levine SB, Jones PK, Kurit DM. The impact of systemic lupus erythematosus on women's sexual functioning. Journal of Rheumatology 1994; 21(12):2254-60
- 74) Althof SE, Levine SB, Corty E, Risen CB, Stern EB, Kurit D. Clomipramine as a treatment for rapid ejaculation: a double-blind crossover trial of 15 couples. Journal of Clinical Psychiatry 1995;56(9):402-7
- 75) Risen CB, Althof SE. Professionals who sexually offend: evaluation procedures and preliminary findings. Journal of Sex & Marital Therapy 1994; 20(4):288-302
- 76) On Love, Journal of Sex & Marital Therapy 1995; 21(3):183-191
- 77) What is clinical sexuality? Psychiatric Clinics of North America 1995; 18(1):1-6
- 78) "Love" and the mental health professions: Towards an understanding of adult love. Journal of Sex & Marital Therapy 1996; 22(3)191-202
- 79) The role of Psychiatry in erectile dysfunction: a cautionary essay on the emerging treatments. Medscape Mental Health 2(8):1997 on the Internet. September, 1997.
- 80) Discussion of Dr. Derek Polonsky's SSTAR presentation on Countertransference. Journal of Sex Education and Therapy 1998; 22(3):13-17
- 81) Understanding the sexual consequences of the menopause. Women's Health in Primary Care, 1998
- 82) Fones CSL, Levine SB. Psychological aspects at the interface of diabetes and erectile dysfunction. Diabetes Reviews 1998; 6(1):1-8

- 83) Guay AT, Levine SB, Montague DK. New treatments for erectile dysfunction. Patient Care March 15, 1998
- 84) Extramarital Affairs. Journal of Sex & Marital Therapy 1998; 24(3):207-216
- 85) Levine SB (chairman), Brown G, Cohen-Kettenis P, Coleman E, Hage JJ, Petersen M, Pfäfflin F, Shaeffer L, van Masdam J, Standards of Care of the Harry Benjamin International Gender Dysphoria Association, 5th revision, 1998. International Journal of Transgenderism at <http://www.symposion.com/ijt>
1. Reprinted by the Harry Benjamin International Gender Dysphoria Association, Minneapolis, Minnesota
- 86) Althof SE, Corty E, Levine SB, Levine F, Burnett A, McVary K, Stecher V, Seftel. The EDITS: the development of questionnaires for evaluating satisfaction with treatments for erectile dysfunction. Urology 1999;53:793-799
- 87) Fones CSL, Levine SB, Althof SE, Risen CB. The sexual struggles of 23 clergymen: a follow-up study. Journal of Sex & Marital Therapy 1999
- 88) The Newly Devised Standards of Care for Gender Identity Disorders. Journal of Sex Education and Therapy 24(3):1-11,1999
- 89) Levine, S. B. (1999). The newly revised standards of care for gender identity disorders. Journal of Sex Education & Therapy, 24, 117-127.
- 90) Melman A, Levine SB, Sachs B, Segraves RT, Van Driel MF. Psychological Issues in Diagnosis of Treatment (committee 11) in Erectile Dysfunction (A. Jarden, G. Wagner, S. Khoury, F. Guiliano, H. Padma-nathan, R. Rosen, eds.) Plymbridge Distributors Limited, London, 2000
- 91) Pallas J, Levine SB, Althof SE, Risen CB. A study using Viagra in a mental health practice. J Sex&Marital Therapy.26(1):41-50, 2000
- 92) Levine SB, Stagno S. Informed Consent for Case Reports: the ethical dilemma between right to privacy and pedagogical freedom. Journal of Psychotherapy: Practice and Research, 2001, 10 (3): 193-201.
- 93) Alloggiamento T., Zipp C., Raxwal VK, Ashley E, Dey S. Levine SB, Froelicher VF. Sex, the Heart, and Sildenafil. Current Problems in Cardiology 26 June 2001(6):381-416
- 94) Re-exploring The Nature of Sexual Desire. Journal of Sex and Marital Therapy 28(1):39-51, 2002.
- 95) Understanding Male Heterosexuality and Its Disorders in Psychiatric Times XIX(2):13-14, February, 2002
- 96) Erectile Dysfunction: Why drug therapy isn't always enough. (2003) Cleveland Clinic Journal of Medicine, 70(3): 241-246.

- 97) The Nature of Sexual Desire: A Clinician's Perspective. Archives of Sexual Behavior 32(3):279-286, 2003 .
- 98) Laura Davis. What I Did For Love: Temporary Returns to the Male Gender Role. International Journal of Transgenderism, 6(4), 2002 and <http://www.symposion.com/ijt>
- 99) Risen C.B., The Crisis in the Church: Dealing with the Many Faces of Cultural Hysteria in The International Journal of Applied Psychoanalytic Studies, 1(4):364-370, 2004
- 100) Althof SE, Leiblum SR (chairpersons), Chevert-Measson M. Hartman U., Levine SB, McCabe M., Plaut M, Rodrigues O, Wylie K., Psychological and Interpersonal Dimensions of Sexual Function and Dysfunction in World Health Organization Conference Proceedings on Sexual Dysfunctions, Paris, 2003. Published in a book issued in 2004.
- 101) Commentary on Ejaculatory Restrictions as a Factor in the Treatment of Haredi (Ultra-Orthodox) Jewish Couples: How Does Therapy Work? Archives of Sexual Behavior, 33(3):June 2004
- 102) What is love anyway? J Sex & Marital Therapy 31(2):143-152,2005.
- 103) A Slightly Different Idea, Commentary on Y. M. Binik's Should Dyspareunia Be Retained as a Sexual Dysfunction in DSM-V? A Painful Classification Decision. Archives of Sexual Behavior 34(1):38-39, 2005. <http://dx.doi.org/10.1007/s10508-005-7469-3>
- 104) Commentary: Pharmacologic Treatment of Erectile Dysfunction: Not always a simple matter. BJM USA; Primary Care Medicine for the American Physician, 4(6):325-326, July 2004
- 105) Leading Comment: A Clinical Perspective on Infidelity. Journal of Sexual and Relationship Therapy, 20(2):143-153, May 2005.
- 106) Multiple authors. Efficacy and safety of sildenafil citrate (Viagra) in men with serotonergic antidepressant-associated erectile dysfunction: Results from a randomized, double-blind, placebo-controlled trial. Submitted to Journal of Clinical Psychiatry Feb 2005
- 107) Althof SE, Leiblum SR, Chevert-Measson M, Hartman U, Levine SB, McCabe M, Plaut M, Rodrigues O, Wylie K. Psychological and Interpersonal Dimensions of Sexual Function and Dysfunction. Journal of Sexual Medicine, 2(6): 793-800, November, 2005
- 108) Shifren JL, Davis SR, Moreau M, Waldbaum A, Bouchard C., DeRogatis L., Derzko C., Bearnson P., Kakos N., O'Neill S., Levine S., Wekselman K., Buch A., Rodenberg C., Kroll R. Testosterone Patch for the Treatment of Hypoactive Sexual Desire Disorder in Naturally Menopausal Women: Results for the INTIMATE

NM1 Study. Menopause: The Journal of the North American Menopause Society 13(5) 2006.

109) Reintroduction to Clinical Sexuality. Focus: A Journal of Lifelong Learning in Psychiatry Fall 2005. III (4):526-531

110) PDE-5 Inhibitors and Psychiatry in J Psychiatric Practice 12 (1): 46-49, 2006.

111) Sexual Dysfunction: What does love have to do with it? Current Psychiatry 5(7):59-68, 2006.

112) How to take a Sexual History (Without Blushing), Current Psychiatry 5(8): August, 2006.

113) Linking Depression and ED: Impact on sexual function and relationships in Sexual Function and Men's Health Through the Life Cycle under the auspices of the Consortium for Improvement of Erectile Function (CIEF), 12-19, November, 2006.

114) The First Principle of Clinical Sexuality. Editorial. Journal of Sexual Medicine, 4:853-854, 2007

115) Commentary on David Rowland's editorial, "Will Medical Solutions to Sexual Problems Make Sexological Care and Science Obsolete?" Journal of Sex and Marital Therapy, 33(5), 2007

116) Real-Life Test Experience: Recommendations for Revisions to the Standards of Care of the World Professional Association for Transgender Health International Journal of Transgenderism, Volume 11 Issue 3, 186-193, 2009

117) Sexual Disorders: Psychiatrists and Clinical Sexuality. Psychiatric Times XXIV (9), 42-43, August 2007

118) I am not a sex therapist! Commentary to I. Binik and M. Meana's article Sex Therapy: Is there a future in this outfit? Archives of Sexual Behavior, Volume 38, Issue 6 (2009), 1033-1034

119) Solomon A (2009) Meanings and Political Implications of "Psychopathology" in a Gender Identity Clinic: Report of 10 cases. Journal of Sex and Marital Therapy 35(1): 40-57.

120) Perelman, MA., Levine SB, Fischkoff SA. Randomized, Placebo-Controlled, Crossover Study to Evaluate the Effects of Intranasal Bremelanotide on Perceptions of Desire and Arousal in Postmenopausal Women with Sexual Arousal Disorder submitted to Journal of Sexual Medicine July 2009, rejected

121) What is Sexual Addiction? Journal of Sex and Marital Therapy. 2010 May; 36(3):261-75

- 122) David Scott (2010) Sexual Education of Psychiatric Residents. *Academic Psychiatry*, 34(5) 349-352.
- 123) Chris G. McMahon, Stanley E. Althof, Joel M. Kaufman, Jacques Buvat, Stephen B. Levine, Joseph W. Aquilina, Fisseha Tesfaye, Margaret Rothman, David A. Rivas, Hartmut Porst. Efficacy and Safety of Dapoxetine for the Treatment of Premature Ejaculation: Integrated Analysis of Results From 5 Phase 3 Trials *Journal of Sexual Medicine* 2011 Feb;8(2):524-39.
- 124) Commentary on Consideration of Diagnostic Criteria for Erectile Dysfunction in DSM V. *Journal of Sexual Medicine* July 2010
- 125) Hypoactive Sexual Desire Disorder in Men: Basic types, causes, and treatment. *Psychiatric Times* 27(6)4-34. 2010
- 126) Male Sexual Dysfunctions, an audio lecture, American Physician Institute 2013
- 127) Fashions in Genital Fashion: Where is the line for physicians? Commentary on David Veale and Joe Daniels' Cosmetic Clitoridectomy in a 33-year-old woman. *Arch Sex Behav* (2012) 41:735–736 DOI 10.1007/s10508-011-9849-7
- 128) Review: Problematic Sexual Excess. *Neuropsychiatry* 2(1):1-12, 2012
- 129) The Essence of Psychotherapy. *Psychiatric Times* 28 (2): August 2, 2012
- 130) Parran TV, Pisman, AR, Youngner SJ, Levine SB. Evolution of remedial CME course in professionalism: Addressing learner needs, developing content, and evaluating outcomes. *Journal of Continuing Education in the Health Professions*, 33(3): 174-179, 2013.
- 131) Love and Psychiatry. *Psychiatric Times* November 2013
- 132) Orgasmic Disorders, Sexual Pain Disorders, and Sexual Dysfunction Due to a Medical Condition. Board Review Psychiatry 2013-2014 Audio Digest CD 27. Audio recording of a one-hour lecture available October 2013.
- 133) Towards a Compendium of the Psychopathologies of Love. *Archives of Sexual Behavior Online* First December 25, 2013 DOI 10.1007/s10508-013-0242-6 43(1)213-220.
- 134) Flibanserin. (editorial) *Archives of Sexual Behavior* 44 (8), 2015 November 2015. DOI: 10.1007/s10508-015-0617-y
- 135) Martel C, Labrie F, Archer DF, Ke Y, Gonthier R, Simard JN, Lavoie L, Vaillancourt M, Montesino M, Balser J, Moyneur É; other participating members of the Prasterone Clinical Research Group. (2016) Serum steroid concentrations remain within normal postmenopausal values in women receiving daily 6.5mg intravaginal prasterone for 12 weeks. *J Steroid Biochem Mol Biol*. 2016 May;159:142-53. doi: 10.1016/j.jsbmb.2016.03.016

- 136) Reflections of an Expert on the Legal Battles Over Prisoners with Gender Dysphoria. *J Am Acad Psychiatry Law* 44:236–45, 2016
- 137) Cooper E, McBride J, Levine SB. Does Flibanserin have a future? *Psychiatric Times* accepted October 23, 2015.
- 138) Levine SB, Sheridan DL, Cooper EB. The Quest for a Prosexual Medication for Women, *Current Sexual Health Reports* (2016) 8: 129. doi:10.1007/s11930-016-0085-y
- 139) Why Sex Is Important: Background for Helping Patients with Their Sexual Lives., *British Journal of Psychiatry Advances* (2017), vol. 23(5) 300-306; DOI: 10.1192/apt.bp.116.016428
- 140) Commentary on "Asexuality: Orientation, paraphilia, dysfunction, or none of the above? *Archives Sexual Behavior*, Archives of Sexual Behavior April 2017, Volume 46, Issue 3, pp. 639–642 DOI: 10.1007/s10508-017-0947-z
- 141) Sexual Dysfunction in Clinical Psychiatry, *Psychiatric Times*, March 2017
- 142) Ethical Concerns About the Emerging Treatment of Gender Dysphoria, *Journal of Sex and Marital Therapy*, 44(1):29-44. 2017. DOI 10.1080/0092623X.2017.1309482
- 143) The Psychiatrist's Role in Managing Transgender Youth: Navigating Today's Politicized Terrain. CMEtoGO Audio Lecture Series, May 2017
- 144) Transitioning Back to Maleness, *Archives of Sexual Behavior*, 2017 Dec 20. doi: 10.1007/s10508-017-1136-9; 47(4), 1295-1300, May 2018
- 145) Informed Consent for Transgender Patients, *Journal of Sex and Marital Therapy*, 2018 Dec 22:1-12. doi: 10.1080/0092623X.2018.1518885.
- 146) Life Processes are Illuminated by Sexual History. (2019) *Psychiatric Times*, December Volume XXXVI. No.12.
- 147) Basic Concepts That Are Important for Clinicians to Understand About Sexuality (2022). *Psychoanalysis and Psychotherapy in China*. Phoenix Publishing House, UK 5(1):55-66.
- 148) Reflections On The Clinician's Role with Individuals Who Self-Identify as Transgender (2021) *Archives Sexual Behavior*, 50(8):3527-3536. doi: 10.1007/s10508-021-02142-1.
- 149) Levine SB, Abbruzzese E, Mason J. Reconsideration of Informed Consent for Trans-identified Children, Adolescents, and Young Adults. *J. Sex and Marital Therapy* 2022 Mar 17;1-22. doi: 10.1080/0092623X.2022.2046221
- 150) Stephen B. Levine, E. Abbruzzese & Julia W. Mason (2022) What Are We Doing to These Children? Response to Drescher, Clayton, and Balon Commentaries

on Levine et al., 2022, Journal of Sex & Marital Therapy, DOI:
10.1080/0092623X.2022.2136117

151) E. Abbruzzese, Stephen B. Levine & Julia W. Mason (2022). The Myth of “Reliable Research” in Pediatric Gender Medicine: A critical evaluation of the Dutch Studies—and research that has followed since. J Sex Marital Ther. 2023 Jan 2;1-27. doi: 10.1080/0092623X.2022.2150346.

152) S. Ayad, R. D’Angelo, D. Kenny, SB. Levine, L. Marchiano, S. O’Mallry (2022) A Clinical Guide for Therapists Working with Gender-Questioning Youth, sponsored by Gender Exploratory Therapy Association (GETA) and Society for Evidence-Based Gender Medicine (SEGM)

153) Should Transgender Youth Care be Guided by Beliefs or Science? Psychology.net. January, 2023 <https://www.psychotherapy.net/article/transgender-youth-care-science-or-beliefs>

154) Levine SB, Abbruzzese E, (2023) “Current concerns about gender affirming therapy in adolescents” Current Sexual Health Reports, 10.1007/s11930-023-00358

C) Book Chapters

- 1) Overview of Sex Therapy. In Sholevar GP (ed) The Handbook of Marriage and Marital Therapy. New York. Spectrum Publications, 1981 pp. 417-41
- 2) Why study sexual functioning in diabetes? In Hamburg BA, Lipsett LF, Inoff GE, Drash A (eds) Behavioral & Psychosocial Issues in Diabetes: Proceedings of a National conference. Washington, DC. US Dept. of Health & Human Services. PHS NIH, Pub. #80-1933
- 3) Sexual Problems in the Diabetic in Bleicher SJ, Brodoff B (eds) Diabetes Mellitus and Obesity. Williams and Wilkins, 1992
- 4) Clinical Introduction to Human Sexual Dysfunction. In Pariser SF, Levine SB, McDowell M (eds) Clinical Sexuality. New York, Marcel Dekker Publisher, 1983.
- 5) Psychodynamically-oriented clinician’s overview of psychogenic impotence. In RT Segraves (ed) Impotence. New York, Plenum, 1985
- 6) Origins of sexual preferences. In Shelp EE (ed) Sexuality and Medicine. D. Reidel Publishing co. 1987. pp. 39-54.
- 7) Hypoactive Sexual Desire and Other Problems of Sexual Desire. In H. Lief (ed). The Treatment of Psychosexual Dysfunctions/ III. American Psychiatric Press, chapter 207, pp. 2264-79, 1989
- 8) Psychological Sexual Dysfunction. In Sudak H (ed) Clinical Psychiatry.

Warren H. Green. St. Louis, 1985

- 9) Male sexual dysfunction. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 10) Sexuality and Aging. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 11) Homosexuality. In Sudak H (ed) Clinical Psychiatry. Warren H. Green. St. Louis, 1985
- 12) Individual and intrapsychic factors in sexual desire. In Leiblum SR, Rosen RC (eds). Clinical Perspectives on Sexual Desire Disorders. Guilford Press, New York, 1988, pp. 21-44
- 13) Gender Identity Disorders. In Sadock B, Kaplan H(eds). Comprehensive Textbook of Psychiatry, Baltimore, William and Wilkins, 1989, pp. 1061-9
- 14) Intrapsychic and Interpersonal Aspects of Impotence: Psychogenic Erectile Dysfunction. In Leiblum SR, Rosen RC (eds). Erectile Disorders: Assessment and Treatment. Guilford Press, New York, 1992
- 15) Psychological Factors in Impotence. In Resnick MI, Kursh ED, (eds.) Current Therapy in Genitourinary Surgery, 2nd edition. BC Decker, 1991, pp. 549-51
- 16) The Vagaries of Sexual Desire. In Leiblum SR, Rosen RC (eds). In Case Studies in Sex Therapy. Guilford Press, New York, 1995
- 17) Rosenblatt EA. Sexual Disorders (chapter 62). In Tasman A, Kay J, Liberman JA (eds). Psychiatry Volume II, W.B.Saunders, Philadelphia. 1997, pp. 1173-2000.
- 18) Althof SE. Psychological Evaluation and Sex Therapy. In Mulcahy JJ (ed) Diagnosis and Management of Male Sexual Dysfunction Igaku-Shoin, New York, 1996, pp. 74-88
- 19) Althof SE, Levine SB. Psychological Aspects of Erectile Dysfunction. In Hellstrum WJG (ed) Male Infertility and Dysfunction. Springer-Verlag, New York, 1997. pp. 468-73
- 20) Paraphilias. In Comprehensive Textbook of Psychiatry/VII. Sadock BJ, Sadock VA (eds.) Lippincott Williams & Wilkins, Baltimore, 1999, pp. 1631-1645.
- 21) Women's Sexual Capacities at Mid-Life in The Menopause: Comprehensive Management B. Eskin (ed). Parthenon Publishing, Carnforth, UK, 2000.
- 22) Male Heterosexuality in Masculinity and Sexuality:Selected Topics in the Psychology of Men, (Richard C. Friedman and Jennifer I. Downey, eds) Annual Review of Psychiatry, American Psychiatric Press, Washington, DC, W-18. pp. 29-

54.

23) R.T.Segraves. Introduction to section on Sexuality: Treatment of Psychiatric Disorders-III (G.O.Gabbard, ed), American Psychiatric Press, Washington, DC, 2001

24) Sexual Disorders (2003) in Tasman A, Kay J, Liberman JA (eds). Psychiatry 2nd edition, Volume II, W.B.Saunders, Philadelphia. Chapter 74

25) What Patients Mean by Love, Psychological Intimacy, and Sexual Desire (2003) in SB Levine, CB Risen, SE Althof (eds) Handbook of Clinical Sexuality for Mental Health Professionals, Brunner-Routledge, New York, pp. 21-36.

26) Infidelity (2003) in SB Levine, CB Risen, SE Althof (eds) Handbook of Clinical Sexuality for Mental Health Professionals, Brunner-Routledge, New York, pp. 57-74

27) Preface (2003) in SB Levine, CB Risen, SE Althof (eds) Handbook of Clinical Sexuality for Mental Health Professionals, Brunner-Routledge, New York, pp. xiii-xviii

28) A Psychiatric Perspective on Psychogenic Erectile Dysfunction (2004) in T.F. Lue (ed) Atlas of Male Sexual Dysfunction, Current Medicine, Philadelphia Chapter 5

29) Levine, SB., Seagraves, RT. Introduction to Sexuality Section, Treatment of Psychiatric Disorders, 3rd edition (Gabbard GO, editor), American Psychiatric Press, 2007

30) Risen CB, (2009) Professionals Who Are Accused of Sexual Boundary Violations In Sex Offenders: Identification, Risk Assessment, Treatment, and Legal Issues edited by Fabian M. Saleh, Albert J. Grudzinskas, Jr., and John M. Bradford, Oxford University Press, 2009

31) What Patients Mean by Love, Intimacy, and Sexual Desire, in Handbook of Clinical Sexuality for Mental Health Professionals edited by Levine SB, Risen, CB, and Althof, SE, Routledge, New York, 2010

32) Infidelity in Handbook of Clinical Sexuality for Mental Health Professionals edited by Levine SB, Risen, CB, and Althof, SE, Routledge, New York, 2010

33) Scott DL, Levine, SB. Understanding Gay and Lesbian Life in Handbook of Clinical Sexuality for Mental Health Professionals edited by Levine SB, Risen, CB, and Althof, SE, Routledge, New York, 2010

34) Levine, SB, Hasan, S., Boraz M. (2009) Male Hypoactive Sexual Desire Disorder (HSDD) in Clinical Manual of Sexual Disorders (R. Balon and RT Segraves, eds), American Psychiatric Press, Washington, DC.

35) Levine, SB. Sexual Disorders in Fundamentals of Psychiatry (by Allan

Tasman and Wanda Mohr, eds.)

<<http://eu.wiley.com/WileyCDA/WileyTitle/productCd-0470665777.html>>, .

36) Infidelity in Principles and Practices of Sex Therapy (I Binik, K. Hall, editors), 5th edition, Guilford Press, New York, 2014.

37) Why is Sex Important? In Handbook of Clinical Sexuality for Mental Health Professionals 3rd ed. [SB Levine, CB Risen, SE Althof, eds] New York. Routledge, 2016, Chapter 1

38) The Rich Ambiguity of Key Terms: Making Distinctions. In Handbook of Clinical Sexuality for Mental Health Professionals 3rd ed. [SB Levine, CB Risen, SE Althof, eds] New York. Routledge, 2016. Chapter 4

39) The Mental Health Professional's Treatment of Erection Problems . In Handbook of Clinical Sexuality for Mental Health Professionals 3rd ed. [SB Levine, CB Risen, SE Althof, eds] New York. Routledge, 2016 Chapter 11

40) Why is Sex Important? In Sexual Health in the Couple: Management of Sexual Dysfunction in Men and Women [L Lipshultz, A Pastuszak, M Perelman, A Giraldi, J Buster, eds.] New York, Springer, 2016.

41) Sommers, B., Levine, S.B., Physician's Attitude Towards Sexuality, in Psychiatry and Sexual Medicine: A Comprehensive Guide for Clinical Practitioners, 2020.

42) Boundaries And The Ethics Of Professional Misconduct in A. Steinberg, J. L. Alpert, C A. Courtois(Eds.) Sexual Boundary Violations In Psychotherapy: Therapist Indiscretions, & Transgressions, & Misconduct. American Psychological Association, 2021.

43) Levine, SB, Risen CB. Professionals Who Are Accused of Sexual Boundary Violations. In Sex Offenders: Identification, Risk Assessment, Treatment, and Legal Issues, 2nd edition. Edited by Fabian M. Saleh, Oxford University Press, 2021

44) Forward to Evans M and Evans S. Psychotherapy of Gender Dysphoria of Children and Young Adults, Phoenix Publication, UK 2021

D) Book Reviews

1) Homosexualities: A Study of Diversity Among Men and Women by Alan P. Bell and Martin S. Weinberg, Simon and Schuster, New York, 1978. In Journal of Sex & Marital Therapy 1979; 5:

2) Marriage and Marital Therapies: Psychoanalytic, Behavioral & System Theory Perspectives by TJ Paolino and BS McCrady. Brunner/Mazel, New York, 1978. In Journal of Sex & Marital Therapy 1979; 5:

3) Management of Male Impotence. Volume 5 International Perspectives in

Urology AH Bennett, (ed) Williams and Wilkins, Baltimore, 1992. In American Journal of Psychiatry, 1984

4) The Sexual Relationship by DE Scharff, Routledge & Kegan Paul, 1982 in Family Process 1983;22:556-8

5) Phenomenology and Treatment of Psychosexual Disorders, by WE Fann, I Karacan, AD Pokorny, RL Williams (eds). Spectrum Publications, New York, 1983. In American Journal of Psychiatry 1985;142:512-6

6) The Treatment of Sexual Disorders: Concepts and Techniques of Couple Therapy, G Arentewicz and G Schmidt. Basic Books, New York, 1983. In American Journal of Psychiatry 1985;142:983-5

7) Gender Dysphoria: Development, Research, Management. BN Steiner (ed). Plenum Press, 1985 in Journal of Clinical Psychiatry, 1986

8) Gender Dysphoria: Development, Research, Management. BN Steiner (ed). Plenum Press, 1985 in Contemporary Psychology 1986;31:421-2 [titled, The Limitations of Science, the Limitations of Understanding]

9) Psychopharmacology of Sexual Disorders by M Segal (ed) John Libbey & Co Ltd, London, 1987 in American Journal of Psychiatry 1987;144:1093

10) "The Sissy Boy Syndrome" and the Development of Homosexuality by R Green. Yale University Press, New Haven, 1987. In American Journal of Psychiatry 1988;145:1028

11) Male Homosexuality: A contemporary psychoanalytic perspective by RC Friedman, Yale University Press, New Haven, 1988 in Journal of Clinical Psychiatry 1989;50:4, 149

12) Sexual Landscapes: Why we are what we are, why we love whom we love. By JD Weinrich, Charles Schribner's Sons, New York, 1987 in Archives of Sexual Behavior 21 (3):323-26, 1991

13) How to Overcome Premature Ejaculation by HS Kaplan, Brunner/Mazel, New York, 1989 in Journal of Clinical Psychiatry 51(3):130, 1990

14) Clinical Management of Gender Identity Disorders in Children and Adults R. Blanchard, BN Steiner (eds) American Psychiatry Press, Washington, DC, 1990. In Journal of Clinical Psychiatry 52(6):283, 1991

15) Psychiatric Aspects of Modern Reproductive Technologies. NL Stotland (ed) American Psychiatric Press, Washington DC, 1990. In Journal of Clinical Psychiatry 1991;52(9):390

16) Homosexualities: Reality, Fantasy, and the Arts. CW Socarides, VD Volkan (eds). International Universities Press, Madison, Connecticut, 1990. In Journal of Clinical Psychiatry 1992;(10)

- 17) Reparative Therapy of Male Homosexuality: A New Clinical Approach. J Nicolosi, Jason Aronson, Northvale NJ, 1992. In Contemporary Psychology 38(2):165-6, 1993 [entitled Is Evidence Required?]
- 18) Male Victims of Sexual Assault, GC Mezey, MB King (eds) Oxford University Press, New York, 1992. In Journal of Clinical Psychiatry 1993;54(9):358,
- 19) AIDS and Sex: An Integrated Biomedical and Biobehavioral Approach. B Voeller, JM Reinisch, M Gottlieb, Oxford University Press, New York, 1990. In American Journal of Psychiatry
- 20) Porn: Myths for the Twentieth Century by RJ Stoller, Yale University Press, New Haven, 1991. In Archives of Sexual Behavior 1995;24(6):663-668
- 21) Sexual Dysfunction: Neurologic, Urologic, and Gynecologic Aspects. R Lechtenberg, DA Ohl (eds) Lea & Febiger, Philadelphia, 1994. In Neurology
- 22) The Sexual Desire Disorders: Dysfunctional Regulation of Sexual Motivation. HS Kaplan Brunner/Mazel, New York, 1995. In Neurology 1996; 47:316
- 23) Femininities, Masculinities, Sexualities: Freud and Beyond. N. Chodorow. The University Press of Kentucky, Lexington, 1994. Archives of Sexual Behavior 28(5):397-400,1999
- 24) Sexual Function in People with Disability and Chronic Illness: A Health Professional's Guide by ML Sipski, CJ Alexander. Aspen Publishers, Gaithersburg, Md, 1997. In Journal of Sex Education and Therapy, 1998;23(2):171-2
- 25) Sexual Aggression by J Shaw (ed). American Psychiatric Press, Washington, DC, 1998. In American Journal of Psychiatry, May, 1999
- 26) The *Wounded* Healer: Addiction-Sensitive Approach to the Sexually Exploitative Professional by Richard Irons and Jennifer P. Schneider. Jason Aronson, Northvale, N.J., 1999 in American Journal of Psychiatry 157(5):8-9,2000.
- 27) Culture of the Internet by Sara Kiesler (editor), Lawrence Erlbaum Associates, Mahway, New Jersey, 1997. 463pp in Journal of Sex Research, 2001
- 28) Psychological Perspectives on Human Sexuality. Lenore T. Szuchman and Frank Muscarella (editors), Wiley and Sons, New York, American Journal of Psychiatry, April, 2002
- 29) "How Sexual Science Operates" a review of Sex, Love, and Health in America: Private Choices and Public Policies. EO Laumann and RT Michael, editors. Chicago, University of Chicago, 2001 in Second Opinion, The Park Ridge Center for the Study of Health, Faith, and Ethics, 11:82-3, April, 2004.
- 30) Sexual Orientation and Psychoanalysis: Sexual Science and Clinical

Practice. R.C. Friedman and J.I. Downey (eds). New York. Columbia University Press. in Archives of Sexual Behavior (2003) 31(5):473-474

31) Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs, Jonathon Michel Metzl. Duke University Press, Durham, 2003 in American Journal of Psychiatry, November, 2004.

32) Sex and Gender by M. Diamond and A. Yates Child Psychiatric Clinics of North America W. B. Saunders, Philadelphia, Pennsylvania, 2004, 268 pp. in Archives of Sexual Behavior April 2007 online publication in Dec.2006 at <http://dx.doi.org/10.1007/s10508-006-9114-7>

33) Getting Past the Affair: A program to help you cope, heal, and move on—together or apart by Douglas K. Snyder, Ph.D, Donald H. Baucom, Ph.D, and Kristina Coop Gordon, Ph.D, New York, Guilford Press, 2007 in Journal of Sex and Marital Therapy, 34:1-3, 2007

34) Dancing with Science, Ideology and Technique. A review of Sexual Desire Disorders: A casebook Sandra R. Leiblum editor, Guilford Press, New York, 2010. In Journal of Sex Research 2011.

35) What is more bizarre: the transsexual or transsexual politics? A review of Men Trapped in Men's Bodies: Narratives of Autogynephilic Transsexualism by Anne A. Lawrence, New York, Springer, 2014. In Sex Roles: a Journal of Research, 70, Issue 3 (2014), Page 158-160, 2014. DOI: 10.1007/s11199-013-0341-9

36) There Are Different Ways of Knowing. A review of: How Sexual Desire Works: The Enigmatic Urge by Frederick Toates, Cambridge, UK, Cambridge University Press, in Sexuality and Culture (2015) 19:407–409 DOI 10.1007/s12119-015-9279-0

37) The Dynamics of Infidelity: Applying Relationship Science to Clinical Practice by Lawrence Josephs, American Psychological Association, Washington, DC, 2018, pp. . 287, Journal of Sex and Marital Therapy 10.1080/0092623X.2018.1466954, 2018. For free access: <https://www.tandfonline.com/eprint/UgiIHbWbpdedsXWXpNf/full>

38) Transgender Mental Health by Eric Yarbrough, American Psychiatric Association Publications, 2018, Journal and Marital & Sexual Therapy, <https://doi.org/10.1080/0092623X.2018.1563345> .

39) Seduced into Darkness: Transcending My Psychiatrist's Sexual Abuse by Carrie T. Ishee, Terra Nova Books, Santa Fe, in Journal of Sex and Marital Therapy, in press 2020. 10.1080/0092623X2020.175847

40) Principles and Practices of Sex Therapy, 6th edition, (2020) KSK Hall, IM Binik (editors), Guilford Press, New York in Journal of Sex and Marital Therapy 147(4): May 2021. Doi 10.1080/0092623X2021.1920736